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## PREHISTORIC THESSALY



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# PREHISTORIC THESSALY

BEING SOME ACCOUNT OF RECENT EXCAVATIONS  
AND EXPLORATIONS IN NORTH-EASTERN GREECE FROM  
LAKE KOPAIS TO THE BORDERS OF MACEDONIA

14792



by

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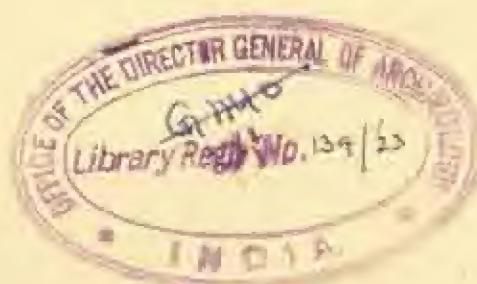
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TO  
THE MEMORY OF GEORGE PINLAY  
HISTORIAN OF GREECE  
AND  
ONE OF THE FIRST STUDENTS OF THE PREHISTORIC  
REMAINS OF THAT COUNTRY





## PREFACE

THE present work is an attempt to collect in a convenient form all the archaeological evidence as yet available for the prehistoric period in North-Eastern Greece. Chapters I—X, which are purely descriptive, contain full accounts of our own excavations with a summary of the discoveries of others. These we hope will be of permanent value, but how far the theories put forward in the other chapters can be justified time alone can show.

Our own excavations in North Greece have all been conducted under the aegis of the British School at Athens, of which we are students. Our publications in connection with them are as follows:

1907. "Excavations at Theotoku," A. J. B. W., J. P. Droop, *B.S.A.* XIII, pp. 309 ff.  
1908. "Excavations at Zerelia," A. J. B. W., J. P. Droop, M. S. T., *B.S.A.* XIV, p. 197. "Early Civilisation in North Greece," A. J. B. W., J. P. Droop, M. S. T., *Liverpool Annals*, 1908, pp. 118 ff., 131 ff. "The Connection of the Aegean Civilisation with Central Europe," T. E. Peet, A. J. B. W., M. S. T., *Classical Review*, 1908, pp. 233 ff.  
1909. "Excavations at Lianokladhi, and Tsani Maghula," A. J. B. W., M. S. T., *Liverpool Annals*, 1909, pp. 149 ff. "Prehistoric Mounds in Macedonia," A. J. B. W., M. S. T., *ibid.* pp. 159 ff. "The Connection of the Aegean Culture with Servia," M. S. T., A. J. B. W., *Classical Review*, 1909, pp. 209 ff.  
1910. "Excavations at Tsangli, and Rakhmani," see Dawkins, *J.H.S.* 1910, p. 360; Reinach, *Rev. Arch.* 1910, II, pp. 429 ff.

A paper containing an early draft of part of Chapter I was read at a meeting of the Research Committee of the Royal Geographical Society, and has been published in the *Geographical Journal*, Vol. xxxvii, pp. 631 ff. Of these publications those giving reports of our excavations are superseded by the present work, and the views expressed in the other papers are to be modified in accordance with Chapters XI—XVII and Appendix I. Mr Droop's enforced absence since 1909 has proved an irreparable loss. During our excavations at Lianokladhi and Tsani we were fortunate in having the assistance of Mr T. E. Peet, thanks to the generosity of the British School at Athens.

As regards the transliteration of Ancient Greek we have followed the system recommended by the British School at Athens<sup>1</sup>. According to this all Greek words and names are preserved in the Greek forms, and only those that are in common use are Latinised. It may be thought that we have Latinised too many names, but we think that the ordinary reader will recognise Chaeronea more easily than Chaironeia.

As to the transliteration of Modern Greek we find ourselves unable to follow the system adopted by the British School at Athens<sup>2</sup>, which through its disregard of sounds is totally unsuited for the transliteration of a living

<sup>1</sup> *B.S.A.* xv, p. 402.

<sup>2</sup> *B.S.A.* xv, p. 403.

language. We have therefore adopted, with one or two additions to suit words borrowed from Turkish, the system suggested by Mr Dawkins<sup>1</sup>, which is in the main that followed by Leake. According to this we transliterate:

- α by a.
- β by v, but μβ by mb: *Varvara* (Βαρβάρα), *Tumba* (Τούμβα).
- γ by γ before a, ο, υ: *Magħala* (Μαγούλα).
- by γ before ε, ι: *Ajja* *Yedryos* (Αγγος Γεόργιος).
- η by ug, and γχ by akh.
- δ by dh, but rd by nd: *Livadhi* (Λιβάδει), *Andreas* (Ανδρέας).
- ε by e.
- ζ by z, but where τζ and δζ are used to express ts and ds we have transliterated accordingly.
- η by z.
- θ by th.
- ι by i.
- κ by k, but γκ by ug in Greek words, and γκ in foreign words: *Langdka* (Λαγκάδα), *Gerli* (Γκερλί).
- λ by l.
- μ by m.
- ν by n.
- ξ by x.
- ο by o.
- π by p, but μπ by mb in Greek and δ in foreign words: *Xerokambo* (Ξερόκαμπο), *Amubakli* (Αμπακλί).
- ρ by r, and ρρ by rr. Initial ρ by r, not rr.
- σ by s. In Turkish words, where σι (and sometimes at the end of words σ) is used to express sh and τσι to express tsch (English ch), we naturally use sh and tsch to represent the sounds: *Pashá* (Πασιά), *Bash* (Μπάσ), *Tshatmá* (Τσιατμά).
- τ by t, but ττ by nd, and in foreign words by d: *Sidheránda* (Σιδηρώντα), *Dash* (Ντασίτ).
- υ by i.
- φ by ph.
- χ by kh.
- ψ by ps.
- ω by o.
- αι by e.
- αι, οι, υι by i.
- αι, οι by af and οι before unvoiced consonants (θ, κ, ξ, ψ), τ, σ, τ, φ, χ), and αι and οι before vowels and voiced consonants: *Ezangellistris* (Ειαγγελίστρια), *Argonima* (Λιγύδηρα), *Efstratios* (Ειστράτιος).

The rough breathing is omitted. The first time a word occurs the Greek spelling is given and the accents which are always written as acute are indicated. In dealing with names of Turkish origin we have in every case taken the commonest Greek spelling and transliterated that. Further, where recognisable, we have given the Turkish derivation. In dealing with these Professor E. G. Browne has most kindly helped us<sup>2</sup>.

Our obligations to others are many. First we wish to take this opportunity of thanking our respective colleges: without their generous

<sup>1</sup> *R.S.A.* xv, pp. 217 ff.

<sup>2</sup> The only exceptions in this system of transliteration are, *Phylakopi* (Φιλακοπή) and *Zafer Papoura* (Ζαφέιρα Παπούρα), because of their common use in English books.

support this work would not have been possible. For contributions towards the expenses of our excavations we are indebted to the Cambridge University Worts' Fund, the Oxford University Craven Fund, Liverpool University (Institute of Archaeology), the British School at Athens, the British Association, the Cambridge Classical Society, and to Messrs R. M. Dawkins, W. Ridgeway, L. Whibley, J. P. Droop, W. Miller, and W. B. Bond. The Cambridge University Craven Fund made a grant towards the cost of the photographs from which most of the illustrations have been made, and the British School at Athens has contributed towards the expenses of publication.

The Greek archaeological authorities have at all times given us every facility. We owe a special debt of gratitude to Professor Tsundas, the pioneer of prehistoric archaeology in Thessaly, and if we have tended to over-emphasize the points on which we disagree with his conclusions, it is only because they are so few. Dr Sotiriadhis has most generously allowed us to make free use of his results, published and unpublished, and in addition has devoted much time to discussing with us many of the problems involved. Dr Arvanitopoulos, Ephor of Antiquities for Thessaly, has allowed us to publish some of his finds from Phthiotic Thebes and other objects in the Volos Museum, and has always been ready to help us. In Thessaly itself Thessalians of all classes have always received us with the greatest kindness, which has gone far to lighten our labours. In particular we owe much to Mr N. Yiannopoulos of Almiros, and Mr P. Apostolidis of Volos. To our colleagues of the German Institute, Professors Doerpfeld and Karo, and Drs Kurt Müller and Goessler we are indebted for information about Tiryns, Olympia, and Leukas. Throughout all our work we have received unfailing help and advice from Mr R. M. Dawkins, Director of the British School at Athens. At home Professors Ridgeway and Myres, Dr Duncan Mackenzie, and Mr L. Whibley have given us every encouragement and the last in addition undertook the thankless task of reading the proofs. Plates I, II 5, IV 4, V, VI, and Figures 11, 13, 29, 91 *d*, 112, 114 are after watercolour and black and white drawings by Mr W. S. George. For the loan of several blocks we are indebted to the British School at Athens, the German Archaeological Institute, and the Institute of Archaeology of Liverpool University, and to the Greek Archaeological Society for permission to copy some plans and illustrations from Professor Tsundas' book.

To the Syndics of the Cambridge University Press for undertaking the publication of this book, and to their staff and readers for their skill and courtesy our heartiest thanks.

A. J. B. W.  
M. S. T.

SALONICA,  
June 12th, 1911.

N. S. L.



## ABBREVIATIONS

In references to books and periodicals we have adopted the abbreviations recommended by the Society for the Promotion of Hellenic Studies, and the British School at Athens (*Annual of the British School at Athens*, XV, pp. 404 ff.). To these we have to add the two following: Professor Tsundas' book on Dhimini and Sesklo (*Χρήστος Τσούντας, Άι προϊστορικαί έργατά της Διμηνίου και Σέσκλου*) is cited throughout as Δ-Σ; and the *Annals of Archaeology and Anthropology* published by the Liverpool University Institute of Archaeology are referred to as *Liverpool Annals*.

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Fig. 1. Sketch Map of North-Eastern Tibet.

Fig. 1. Section map of the Nodus Egesta in Greece.

Rakimapa, 2 Alomarimaki, 3 Argos, 4 Mesani Maglinia, 5 Topeslar, 6 Lihommi, 7 Sekli, 8 Pirkhos, 9 Tsangli, 10 Raki, 11 Tsaoi Maglihi, 12 Zereba, 13 Danika, 14 Maglihi Aldhiojotiki, 15 Puthianni, 16 Thebes, 16 Lianokhali, 17 Chersones, 18 Selidiki, 19 Ghalies, 20 Zirkos, 21 Theoskiki.

## INTRODUCTION

THE exploration of the prehistoric remains of North Greece may be said to have been begun by Schliemann<sup>1</sup>, when he excavated at the Boeotian Orchomenos in 1880 and 1881. Here he was the first to find in any quantity the grey, wheel-made ware, now so well known, to which he gave the name Minyan. In 1884 Lolling<sup>2</sup> first called attention to the Thessalian mounds, and specially studied those at Dhimini (Δημίνη) and Sésklo (Σέσκλο)<sup>3</sup>, where he collected prehistoric vase fragments, which he submitted to Furtwaengler. In 1886 the first tholos tomb at Dhimini<sup>4</sup> was excavated. In 1889 Wolters<sup>5</sup> published the Mycenean vases from Pagasae in the collection of Mr Periklis Apostolidhis of Vólos (Βόλος). But in spite of the promise of much that was new and interesting ten years passed without any regular excavation in Thessaly. The exploration of the Orchomenos district however proceeded rapidly. In 1891 and 1892 Kambanis<sup>6</sup> and Curtius<sup>7</sup> dealt with the Minyan dykes of Lake Kopais. The following year de Ridder<sup>8</sup> excavated at Orchomenos itself and at Ghulás (Γούλας)<sup>9</sup>. In 1894 Noack published a long account of Ghulás in which he noticed other early sites in the same neighbourhood. In 1896 attention was recalled to Thessaly by the discovery of iron age tholos tombs at Marmáriani (Μαρμάριανη), which were further explored by Tsundas in 1899<sup>10</sup>. In 1901 Stais while excavating the second tholos tomb at Dhimini was led to begin the excavation of the prehistoric settlements there<sup>11</sup>. In 1901 and the following year Tsundas dug the mound of Sésklo, and in 1903 he completed the exploration of the mound of Dhimini<sup>12</sup>. In the following years he examined many other prehistoric sites in the Thessalian plains. In 1904 Kurumiots<sup>13</sup> conducted a small excavation at Kini (Πήνη)<sup>14</sup>, and in 1905 cleared the tholos tomb at Kapaklı (Καπακλή)<sup>15</sup>. In the meantime fresh discoveries had been made in Phocis and Boeotia. Furtwaengler excavated at Orchomenos<sup>16</sup> in 1903 and 1905 with

<sup>1</sup> *J. H. S.* 1881, pp. 122 ff.

<sup>2</sup> *Ath. Mitt.* 1884, pp. 97 ff.

<sup>3</sup> The full form of the name is Σέσκλον, but this is the Thessalian dialect, which like other North Greek dialects drops unaccented *u* and *ü*, becomes Σέσκλα.

<sup>4</sup> *Ath. Mitt.* 1886, pp. 435 ff.; 1887, pp. 136 ff.

<sup>5</sup> *Ath. Mitt.* 1889, pp. 253 ff.

<sup>6</sup> *B. C. H.* 1892, pp. 121 ff.; 1893, pp. 322 ff.

<sup>7</sup> *Deichbauten der Minyer (Gesammelte Abhandlungen* 1, pp. 266 ff.).

<sup>8</sup> *B. C. H.* 1894, pp. 371, 446 ff.; 1895, pp. 136 ff.

<sup>9</sup> The site is not known by this name to the natives of the district, but as Paleokastro (Παλαιόκαστρο). Ghulás is said to be an Albanian word

derived from the Turkish *göll* (tower), and would naturally become Ghulás in a North Greek dialect. The form Ghu sometimes used by archaeologists is probably due to some misunderstanding.

<sup>10</sup> *Природа* 1899, pp. 101 ff.

<sup>11</sup> *Природа* 1901, pp. 37 ff.; Δ-3, p. 27.

<sup>12</sup> Δ-3, pp. 57, 70.

<sup>13</sup> See below, p. 130 ff.

<sup>14</sup> This is the modern local spelling of the name of this village: Υεριγιάδης (*Γεργυάδης*, *Θεριγιάδης*, p. 209) spells it *lari*. Tsundas (Δ-3, pp. 131, 244, 283) calls it *Kapaklı*.

<sup>15</sup> *ΕΦ. Αρχ.* 1906, pp. 311 ff.

<sup>16</sup> Bulla, *Orchomenos* 1, p. 8 ff.

most important results. In 1902 Sotiriadhis<sup>1</sup> began that valuable series of excavations in the neighbourhood of Chaeronea and Elatea, which he has continued with success up to the present time. In Thessaly Arvanitopoulos<sup>2</sup> found in 1907 and 1908 a prehistoric deposit on the acropolis of Phthiotic Thebes, and in 1909 a small settlement of the same period at Pagasae, and in addition has brought many prehistoric objects into the Museum at Volos. Our own excavations<sup>3</sup> in Thessaly began in 1907 at Theotoku (Θεοτόκου). In 1908 we excavated at Zerélia (Ζερέλια), in 1909 at Lianokladhi (Λιανοκλάδι) and Tsani Maghula (Τζάνη Μαγούλα), and in 1910 at Tsangli (Τσαγγλί) and Rakhmáni (Ραχμάνη).<sup>4</sup> In addition, by travel and exploration in Northern Greece, Macedonia, and Epirus, we have attempted to define the limits of the prehistoric culture of Thessaly.

<sup>1</sup> *Ath. Mitt.* 1903, pp. 302 ff.; 1905, pp. 120, 134 ff.; 1906, pp. 306 ff.; *Eph. Arch.* 1908, pp. 65 ff.; *Mémoirs* II (1908), pp. 95 ff.; *Πρακτικά* 1909, pp. 123 ff.; 1910, pp. 159 ff.

<sup>2</sup> *Mémoirs* II (1908), pp. 19 ff.; *Πρακτικά* 1907, pp. 166 ff.; 1908, pp. 180 ff.; 1909, pp. 153 ff. His later report (*Πρακτικά* 1910, pp. 168 ff.) has appeared too late for us to use in the present work.

<sup>3</sup> These and other excavations are described in Chapters III-X.

<sup>4</sup> This is derived from the Turkish *Rahmán* (merciful).



FIG. 2. Iolcus (Volos Kastro) from the north-west. The prehistoric deposit can be seen directly below the medieval walls.

## CHAPTER I

### THE GEOGRAPHY OF NORTH-EASTERN GREECE, AND THE DISTRIBUTION OF THE PREHISTORIC SITES

For the purposes of historical geography Northern Greece may be considered as divided into two parts by the great range of Pindus, which starting far up in the Macedonian mountains ends in the Parnassus group on the Corinthian Gulf. To the west in Epirus and Aetolia the whole country is a confused mass of rugged mountains with here and there a lake in a small plain as at Yánnina, and below Thermos (Képhalóvriso, Κεφαλόβρυσο). The principal rivers such as the Achelous (Aspropótamo, Ἀσπροπόταμο) and the Arachthus (the river of Arta) run through narrow gorges except near their mouths. The main route from north to south seems to have come down Central Epirus to Ambracia (Arta, Ἄρτα), and thence to have crept round the coast past Amphilochian Argos into the lower Achelous valley.

To the east the formation of the country is entirely different. Great, parallel ranges starting at right-angles from Pindus run eastward to the sea and divide the land into a series of plains, in which the prehistoric settlements are found. The northernmost range, which separating the basins of the Haliacmon (Vistritsa, Injé-qára-su) and of the Peneus (Salambris, Σαλαμβρίς) forms the boundary between Thessaly and Macedonia, ends in Olympus. At its extreme east is the pass of Tempe which, despite its fame, never seems to have been of much practical use. Further west are several much-travelled routes leading from the Europos (Xeríás, Ξερίας) valley from Elassóna (Ελασσόνα, Oloosson) to Berrhoea or Pydna. To the west again between the Europos and Kalibáka (Καλιβάκα) other routes lead northwards into the Haliacmon valley. In spite of these passes the mountains seem always to have been a formidable barrier, the more so in antiquity since they were probably more thickly wooded than now. Immediately to the north of them<sup>1</sup> few traces of prehistoric culture, Thessalian or otherwise, are yet known, and none in the Pierian plain. In the Vardar (Axius) valley and the neighbourhood of Salonica, where early sites are known, the culture seems to be different from the Thessalian<sup>2</sup>. To the south as far as Othrys there is a wide plain broken only by the isolated mass of Cynoscephalae which is of little importance. To the east the plain is shut off from the sea by the rugged coasts of Pellion and Ossa, but to the south-east by Volos and Almiros (Ἀλμυρός) on the Pagasaean Gulf access to the sea is easy. The range that

<sup>1</sup> Cf. p. 254.

<sup>2</sup> *Liverpool Annals* 1909, pp. 159 ff.

forms the southern boundary of this plain and the northern limit of the Spercheus valley, breaks off from Pindus by Mount Tymphrestus. The mountains at first of moderate height form an elevated plain round Lake Nezero (Νεζέρο, Xynias) and the upper waters of the Enipeus, and further east the range divides: its northern branch sinks into the low hills that end above Phthiotic Thebes, while the southern branch rises to the bare summit of Othrys: between the two lies the fertile plain of Almiros. To-day this range can be crossed at many points. The best known route in classical times is the coast road from Halos to Lamia by Pteleum and Larissa Kremaste, which was followed by Xerxes and Philip II. Further west the hills can be easily crossed at many points between Lamia and Varihópi (Βαριχόπη), though the principal modern route is the carriage road from Lamia to Thaumaci (Dhomokós, Δομοκός) through the Phurka (Φούρκα) pass. It seems probable that in early times thick woods made these routes far more difficult. For instance Brasidas<sup>1</sup> on his march to Thrace in 424 B.C. took one of these passes from Heraclea in Trachis to Melitaea (Avaritsa, Αβαρίτσα) and Pharsalus in order not to attract attention, and was obliged to procure guides. To the south the Spercheus valley is bounded by Mounts Oeta and Kallidromos. The passes to the south through these may be reduced to four, the Thermopylae route, the path over Kallidromos followed by the modern road, a route leading from Heraclea to the upper Asopus, and a fourth pass leading round Oeta from Hypate by Mavrolithári (Μαυρολιθάρι) into Doris. There is no evidence to show which of these passes was used, but the same early culture is found both to the north and south of them. The plain to the south is the valley of the Kephissos, and is surrounded on all sides by hills. The main route to the south leads by Orchomenos and Kopais to Thebes, and it is near this road, shut in between the hills and the marsh, that we find the southern outposts of the early culture of North-East Greece. The sea to the east is easily reached by roads leading through the low hills to Mólos (Μώλος), Atalándi (Αταλάντη), and Larymna, but the passes to the Corinthian Gulf east and west of Parnassus by Daulis and Amphissa are difficult. It will thus be seen that the eastern part of North Greece is cut up into plains by these ranges through which communication in times of peace was practicable, although they form strong military frontiers. On the other hand the passes leading through Pindus are few and difficult: there is one route from Yannina over the Zighós (Ζυγός) to Kalabaka, another from Trikkala (Τρίκκαλα) by Pórtes (Πόρτες) to Arta, and a third from the upper Spercheus by Karpenisi (Καρπενήσι) towards Aetolia and Acarnania. But as will be seen from the distribution of sites these do not seem to have been much used.

The prehistoric sites, which occur throughout the described area, are in the form of mounds, most of them situated in the plains, but a few are to be found on the foothills. They fall into two types, high and low<sup>2</sup>. The low mounds, which are far commoner than the others, only rise about three

<sup>1</sup> Hist. VII, 197, 198; Dem. *De Fals. Leg.* § 163.

<sup>2</sup> Thuc. IV, 78. Cf. the march of Agesilaus by Náthakánni, Xen. *Hell.* IV, 5, 9. The Larissa Kremaste route was the most important: it was

seized by Demetrios Poliorcetes in 302 B.C. (Diod. XX, 110) and by the Romans in 200 and 171 (Liv. XXXI, 46, XXXII, 56, 67).

<sup>3</sup> See appendix at the end of this chapter.

metres above the surrounding ground and an examination of them has shown that they were deserted at an early date. The high mounds on the other hand, which rise to a height of eight metres or more, continue down to a far later period and in a few rare cases were converted into Greek settlements<sup>1</sup>. The high mounds are usually oval in shape, with steep sides and flat tops, while the low ones rise gently out of the plain. Both types however must be carefully distinguished from a form of conical mound probably covering a Hellenistic built tomb, as at Pilaf Tepé<sup>2</sup> (Πιλάφ Τέρε), near Larissa<sup>3</sup>, and at Pydna<sup>4</sup>, which is to be found in the same area as the prehistoric settlements. The mounds are locally known as *Tumber* (Τούμβες) or *Maghiles* (Μαγούλες). Strictly speaking the term *maghila* should be applied only to an artificial mound in which rubbish or traces of human habitation can be discerned, while *tumba* meaning merely a sepulchral tumulus does not imply the presence of rubbish or any difference of soil. This distinction is still often recognised by the peasants. The word *maghila*, which in origin is probably Slavonic, occurs in various forms throughout the Balkans and in South Russia as a name for similar mounds.

The most southerly sites of the early culture of North-Eastern Greece are those in the neighbourhood of Orchomenos; and while the future may perhaps reveal settlements further south, it seems unlikely on account of the occurrence of the Cycladic culture near Chalcis<sup>5</sup>, and also, as we have seen, Orchomenos is close to a natural geographical boundary. Further up the valley there is an important site at Chaeronea, and still further north others have been found near Elatea (Dhrakhmáni, Δραχμάνη) and Dhadhi (Δαδή). The next group of mounds occurs in the Spercheus valley and centres round the villages of Lianokladhi, and Amúri (Αμούρι) to the west of Lamia. In antiquity these sites were much nearer the sea than they are to-day owing to the large amount of alluvial deposit brought down by the Spercheus. Higher up the valley towards Varibopi surface exploration has not yet yielded any results. In the elevated plain of Othrys the acropolis of the Greek city at Tshatma (Τσατμά)<sup>6</sup> is probably a *maghila* of the high type, and the early statuette from Melitaea (Avaritsa) suggests that there

<sup>1</sup> E.g. Nos. 59, 64, 69, 71, 72, 73, 75, 81, 105 in the list of sites at the end of this chapter.

<sup>2</sup> Edmonds, *J. H. S.* 1900, pp. 20 ff. The name Pilaf Tepé is purely Turkish and means "Pilaf hill."

<sup>3</sup> Arvanitopoulos, *Εφ. Αρχ.* 1909, pp. 27 ff.

<sup>4</sup> Heuzey, *Mission de Macédoine*, pp. 243 ff., Pls. 17—21, cf. below, p. 55.

<sup>5</sup> According to G. Meyer (*Neugriech. Studien*, II, p. 68) the word *argyra* is derived from the Albanian *argul'*, itself probably a loan word from Slavonic. Mr E. H. Minns, whom we have consulted, informs us that the Old Slavonic form is *mogila*. In Russian, Bohemian, and Polish it appears as *mogila*; and is represented in all the other Slavonic languages and in Lithuanian. In Roumanian it is *mogilda*, *mogild*, *mogild*, or *mogurd* (cf. the Little Russian *mohyla*). This *y* of the Old Slavonic form is a thick sound representing Indo-European *u*. The *oo* may be the sound nearest to this the Greeks could get, cf. *esposu*, which is

the Old Slavonic *kerfle*, a trough. *Moyuł* may be an old loan word from Slavonic, for modern borrowings have an *i* sound, cf. *vidra* for Old Slav. *vijdra*, South Slav. *vidra*, *vidava* for Old Slav. *pejvja*, South Slav. *pelja*. Thus the word may have come direct into Western Greek from Slavonic, and not through Albanian, for it is practically unknown in the Albanian districts of Greece (the Peloponnese, Attica, and Boeotia), while common in Thessaly and Phocis. But G. Meyer in his *Albanischer Wörterbuch*, which was published before *Neugriechische Studien*, does not believe in an ancient connection between Slavonic and Albanian, and so suggests that both languages borrowed the word from a third. He also gives an Albanian form *gumul'*, with which he compares the Serbian *gumila*.

<sup>6</sup> Πατραρχία, Περὶ τῶν ἐν Κιόσι τρύγων τόφων, pp. 1 ff.

<sup>7</sup> Leake (*Northern Greece*, IV, p. 470) calls this Tjeuma.

is probably a settlement in that neighbourhood. On the coast road from Larissa Kremaste to Halos there is a *maghula* near Súrpi (Σούρπη). North of Othrys prehistoric mounds are very common. In the plain of Almiros both types occur, and it is noticeable that here the high mounds are commoner than elsewhere, there being an equal number of both kinds. In the western portion of the Thessalian plain, extending from Dhomokos in the south to Palamás (Παλαμάς) and Zárkos (Ζάρκος) in the north, and with an eastern limit at Pharsalos and a western one at Kardbitsa (Καρδίτσα), is another group of sites. The sudden cessation of prehistoric settlements in the west at a considerable distance short of the Pindus range, and their non-appearance in the plain between Trikkala and Phanári (Φανάρι) is most important, and suggests that the distribution was due to circumstances that no longer exist. To the east of Pharsalus is a line of sites extending to the head of the Pagasaean Gulf at Volos (Ιόλκος)<sup>1</sup>. In the eastern plain from Pherae (Velestinos, Βελεστίνος) to Tírnavos (Τύρναβος) and Tempe is another large group of settlements, but it is to be noticed that in the Dotian plain by Ayía (Αγνά) there is no prehistoric mound, though the Hellenic acropolis<sup>2</sup> at Aliphaklár (Αληφακλάρ) seems to have been inhabited in prehistoric times. We thus see that the prehistoric settlements occur everywhere in the plains except in three small areas in the upper Spercheus valley, in the plain between Phanari and Trikkala, and in the Dotian plain. In the Elassona district (Perrhaebia) prehistoric remains are few. Two small sites (p. 12, nos. 123, 124) alone are known, one at the village of Maghula by the Euphrates, and another in an unusual position on a small hill by Tsaritsáni (Τσαριτσάνη), but the open country between these two sites was apparently uninhabited. In the elevated plain to the south of Dhomokos prehistoric remains are also scarce.

In all these places prehistoric sites would naturally be expected, and their absence can only be accounted for by the supposition that the country in those districts was for some reason unfavourable for habitation at an early period. It seems likely that the woods of Thessaly which to-day are confined to the eastern slopes of Pelion and Ossa, the north side of Othrys by Ghíra (Γούρα), and the Thessalian slopes of Pindus, formerly extended into the plain and that the forest belt was in certain cases the boundary of the prehistoric inhabitants. Evidence for such forests in the districts where no early remains have been found, does exist though it is necessarily slight. In contrast to the bare plain of Larissa, the western extremity of the plain from Phanari to Trikkala and Kalabaka to-day contains some trees. There is no doubt that until recently large woods existed between Trikkala and Phanari. Enquiries made by us in the neighbourhood of the latter town supported this, and Leake<sup>3</sup> remarks that at Kapá (Καπά) to the west of Phanari he passed through the remains of woods which had not long before been burnt by Veli Pasha, as they were a notorious haunt of robbers. A similar clearing seems to have taken place in the plain of Ayia, where

<sup>1</sup> In the Magnesian peninsula no prehistoric site has yet been found, but cells have been found at Argalasti (Αργαλαστή), *et. al. J. H. S.* 1906, p. 151, and there is a bronze double axe from Khórtos (Χόρτος)

in the Volos Museum. For early iron age tombs at Theoióka see below, pp. 209 ff.

<sup>2</sup> See below, p. 10.

<sup>3</sup> *Northern Greece*, iv, p. 319.

a few trees are still left. Leake says that while travelling from Karalár (Καραλάρ) to Marmariani he lost his way in a wood<sup>1</sup>. Thus in two of the regions where there is a curious absence of prehistoric remains, there is evidence for the existence of woods down to the beginning of the last century. For the other two districts, the plateau of Othrys and the Elassona valley, the evidence is not quite so good. In 191 B.C. when M'. Acilius<sup>2</sup> attacked Thaumaci (Dhomokos) from the north on his way south to the Spercheus, the inhabitants left the town and harassed his army on the march from the woods. How much of this district was wooded is not clear, but in any case this circumstance implies woods by Dhomokos that no longer exist. The district round Elassona is the last region to consider. The obvious road into it from the rest of Thessaly is not by the Meluna (Μελούνα) pass, which is a mountain ridge made possible for traffic only by an artificial road, but up the Europos valley, which offers an easy route past Dhamasi (Δαμάσι, Mylae?) and Dhomnikos (Δομενίκος, Cyretiac). The fact that there are in this valley several Hellenic sites in contrast to only one on the Meluna route at Karatshölli (Καρατσόλι<sup>3</sup>, Orthe?) clearly shows which was more used in classical times. A passage of Anna Comnena<sup>4</sup> suggests that this valley was wooded. She describes a pass near Larissa, which she calls the palace of Domenikos, where a marshy ravine enters a wooded plain. This apparently refers to the Europos valley, and if so provides us with a reason why prehistoric remains are rare in this district. Thus in all four districts where prehistoric sites are rare or unknown there is evidence that woods once existed, though it must be admitted that in two cases the evidence is slight.

<sup>1</sup> *Northern Greece*, III, p. 374.

<sup>2</sup> Livy, XXXVI, 14.

<sup>3</sup> This is the modern spelling, though the name is pronounced Karatshölli, and Karadölli. It is probably the Turkish *Qard-Chöll* = Black desert.

<sup>4</sup> Ed. Paris, p. 141; ed. Bonn, I, p. 253; it is quoted by Leake, *Northern Greece*, IV, p. 303.

## APPENDIX

## LIST OF THE PREHISTORIC SITES IN NORTH-EASTERN GREECE

For convenience and to prevent confusion in the following list of sites we have retained and extended Tsundas' numbering<sup>1</sup>. An asterisk against the number implies that the mound is of the high type, or that at that site pottery of the Third (Chalcolithic) and Fourth (Bronze Age) Periods has been found. Of course such pottery may yet be found at other sites not so marked.

1. At Pagasae opposite Volos near a small harbour: Mycenaean (L.M. II) vases<sup>2</sup> and late tombs have been found here, and also a few prehistoric sherds. Arvanitopoulos has excavated here, but has not found any prehistoric settlement. On a hill however within the walls of Pagasae where he has discovered the ruins of a Greek temple of the fourth century, he has found the remains of a prehistoric settlement, which had been cleared away to the sides to make room for the foundations of the later building. To judge by the pottery this settlement flourished during the Second (Neolithic) Period.

On the way from Volos to Larissa and Temavos are the following:

- 2\*. Near the village of Dhimini, see Chapter IV.
- 3\*. By the village of Sesklo, see Chapter IV.
- 4\*. At Pírgos (Πίργος) not far from Sesklo, see Chapter IV.
5. Near the railway line from Volos to Velestinos, and opposite the tumulus of Pilaf Tepe.
6. Near Velestinos station on the right of the line to Larissa.
7. Near Velestinos station on the right of the line to Larissa at its junction with the Trikkala line.
8. Near Velestinos station on the left of the line to Larissa.
9. Half an hour north-east of Velestinos station.
10. North-west of Velestinos and fifteen minutes from Gerli (Γερλή).
11. At the foot of Cynoscephalae and twenty minutes north-east of Takhtalasmán (Ταχταλασμάν).
12. At Gerli on the left of the line to Larissa.
- 13\*. North-west of Gerli near Kilelér (Κιλελέρ).
- 14\*. Between the village of Sakálár (Σακαλάρ) and the railway line, but close to the latter.
- 15\*. Opposite to 14, but on the left of the line to Larissa.
16. Fifteen minutes to the north-west of Tsular (Τσουλάρ) station.
17. Half an hour north-west of Tsular station on the left of the Larissa line.
18. Near Tsular station on the right of the Larissa line.
19. Fifteen minutes west of Topuslář (Τοπούσλαρ) station amongst vineyards.
20. Twenty minutes north-west of 19.
21. At Topuslář village, see Chapter III.
22. Half an hour north-west of Topuslář.
23. By the village of Metiseli (Μετισέλι).
- 24\*. Between the sixth kilometre stone on the Larissa-Ayia road and Metiseli.
25. About half an hour from Larissa by the second kilometre stone on the Ayia road.
26. Mesianí Maghúla (Μεσιάνη Μαγούλα), between the fourth and fifth kilometre stones on the left of the Larissa-Ayia road: see Chapter III.
27. Half an hour north-west of Larissa on the right of the road to Tempe.

<sup>1</sup> Δ-2, pp. 1 ff.

<sup>2</sup> See below, pp. 207 ff.

<sup>3</sup> *Arch. Anz.* 1910, p. 157; *Проклад* 1909, pp. 153 ff.

28\*. On the right bank of the Peneus by the bye-road leading from the Tempe road to Kulóri (*Κουλορί*).  
 29. Five minutes north of Nékhali (*Νέχαλη*).  
 30\*. Krimnós (*Κρημνός*), the supposed site of Argissa, an hour and a half west of Larissa on the left bank of the Peneus: see Chapter III.  
 31. On the right of the Larissa-Tirnavos road by the sixth kilometre stone.  
 32. On the left of the Larissa-Tirnavos road by the seventh kilometre stone.  
 33. On a bye-road to the right of the Larissa-Tirnavos road by the eleventh kilometre stone.  
 34. Ten minutes to the north of Drusanádhes (*Ντρουσανάδης*).  
 35\*. On the right of the Larissa-Tirnavos road by the eleventh kilometre stone.  
 36\*. Fifteen minutes from the village of Tatar (*Τατάρ*)<sup>1</sup>.  
 On the way from Velestinos to Pharsalus and Kardhitsa are the following:  
 37\*. Fifteen minutes south of the station of Persuphili (*Περσούφλη*), and on a low rocky hill above a plentiful spring.  
 38\*. Fifteen minutes to the south-west of Alvali (*Αλβαλή*)<sup>2</sup> station on the light railway running down from the mine of Tsangli (*Τσαγγλή*), and opposite the village of Karabátrám (*Καραβάτραμ*)<sup>3</sup>, see Chapter V.  
 39. In the valley between the villages of Duvlatán (*Ντουβλατάν*) and Anahakli (*Αναχακλή*).  
 40\*. A double mound south of the village of Tahakhmáti (*Τσιαχμάτη*) by the river of Pharsalus.  
 41. Ten minutes east of Dhémertli<sup>4</sup> (*Δεμερλή*) station on the Thessalian railway and south of Simikli (*Σιμικλή*).  
 42. Half an hour south of Khatsi Amar<sup>5</sup> (*Χατζή Αμάρη*).  
 43. South of Pharsalus on the Dhomokos road and north of Vardhali (*Βαρδάλη*).  
 44\*. Milos (*Μύλος*), north of Pharsalus station and close to the left bank of the Enipeus to the east of the stone bridge.  
 45. Mezil Maghúia (*Μεζιλ Μαγούια*), south-west of the village Teké<sup>6</sup> (*Τεκέ*) on the hills north of the Enipeus: cf. Δ-Σ, p. 174, white on red ware, Αζα is common here.  
 46. Twenty minutes north-east (?) of Sophádhes (*Σοφάδης*)<sup>7</sup>: this may be the mound called Margharita (*Μαργαρίτα*) on the way from Sophadhes to Pazaráki (*Παζαράκη*).  
 47. Twenty-five minutes east of 46.  
 48. Ten minutes south of Baltalár (*Μπαλταλάρ*)<sup>8</sup>.  
 49. South of the village of Almandár (*Αλμαντάρ*).  
 50\*. The so-called Khomatókastro (*Χωματόκαστρο*) of Almandár, between that village and Orphána (*Ορφανά*).  
 51. Opposite the village Márku (*Μάρκου*) on the other bank of the river. Here Tsundas found a fragment of Τ2 incised ware, Δ-Σ, p. 201, Fig. 111.  
 52. Platomághula (*Πλατομάγουλα*), on the right bank of the Sophadhes river opposite the village of Pirghos Mataringa (*Πίργος Ματαρίγκα*).  
 53. Half an hour north of the site of Cierium.  
 54. Between Cierium and 53.  
 55. Amárandos (*Αμάραρτος*), fifteen minutes south-west of Sophadhes.  
 56. On the right bank of the river Kaléndsi (*Καλέντση*) between the villages of Daút (*Νταούτη*)<sup>9</sup> and Kumádhes (*Κουμάδης*).

<sup>1</sup> Tatar of course means Tartar.<sup>2</sup> Alvali is the Turkish *Ayvalı* (prince) with the adjectival termination *li*.<sup>3</sup> Karabátrám is the Turkish *Qdroz* (black)-*Bozıms* (a Turkish festival).<sup>4</sup> Tahakhmáti is probably connected with the Turkish *Çehmisi* (fountain).<sup>5</sup> Dhémertli is the Turkish *Demir* (iron) with the termination *li*.<sup>6</sup> Khatsi Amar is probably a Turkish personal name, *Hacı Umar*.<sup>7</sup> Teké is the Turkish *Tekke* (monastery).<sup>8</sup> Sophádhes is derived from the Turkish *Sofje* (bench).<sup>9</sup> Pazaráki is the Turkish *Hâzır* (market) with the Greek diminutive termination *aki*.<sup>10</sup> Baltalár is the Turkish *Balta-lar* (axes).<sup>11</sup> Daút is the Turkish *Öfçed* (David).

57. Ten minutes north of Karditsa on the road to Larissa.  
 58. North of Karditsa between Morikhovo (Μορίχοβο) and Paraprastani (Παραπράσταντι).

Round the Krokian plain are the following:

59\*. The supposed site of Pyrasos at Néa Anchialos (Νέα Ἀγχίαλος).  
 60\*. Aidhiniótiki Maghúla (Αιδηνιώτικη Μαγούλα), an hour north of Almiros: see Chapter VII.  
 61\*. Zerélia (Ζερέλια), forty-five minutes south-west of Almiros: see Chapter VII.  
 62. Fifteen minutes north of Karatsadaghli (Καρατζαρεγλή) by a grove of oak trees.  
 63. Paleokhóri (Παλαιοχώρι) or Yiužlár (Τιουζλάρ), half an hour west of the village of Daudzâ (Νρασούζα): see Chapter VII.  
 64\*. Maghúla Almirótiki (Μαγούλα Ἀλμυροτίκη), fifteen minutes east of Almiros.  
 65. South of Almiros near the right bank of the Xerías (Ξεριάς), and between the vineyards and the road to Karatsadaghli.  
 66. On the left bank of the Kholórevma (Χολόρευμα), a few minutes down stream from the mill called Vaitzi (Βαϊτσι).  
 67\*. The mound of Bás Mílos (Μέσας Μίλος): on the right bank of the Kholorevma just below the bridge on the Turkomusli (Τουρκομουσλί) road: cist tombs have been found here.  
 68\*. The acropolis of Phthiotic Thebes, see Chapter VII.  
 69\*. The site identified as Phylake, just south of Kitik (Κιτίκ): by it is a good spring.  
 70\*. The maghúla of Surpi<sup>1</sup>, half an hour south of the village by a mill: here Minyan ware is very common.

By Volos, Velestinos, Larissa, and Tirnavos are the following:

71\*. The Kástro (Κάστρο) of Volos, the probable site of Iolcus (Fig. 2): see p. 2.  
 72\*. The so-called acropolis of Pherae on the hill to the west of Velestinos.  
 73\*. The acropolis of the Greek city at Aliphaklar, celts and unpainted prehistoric pottery have been found here.  
 74\*. The mound of Marmariani: see Chapter III.  
 75\*. Tásh Mántra (Τάσ Μάντρα), an hour east of Bakrina (Μαρίκρια) on the road from Larissa to Tempe, near a good spring.  
 76\*. The mound of Rakhamati: see Chapter III.  
 77. Close to Makritchóri (Μακρυχώρι) station, between it and the village.  
 78. South of Tsatobasi (Τσατούβασι), on the right bank of the Peneus.  
 79. Near Amáni (Αμάνη), on the right bank of the Xerias (Europos), half an hour south-west of Tirnavos.  
 80. Fifteen minutes east of Tirnavos on the Meluna road.  
 81\*. The acropolis of the Greek city (Orthe?) at Karatsholi.

Between Velestinos and Pharsalus are:

82\*. The mound of Rini, by a good spring: see Chapter V.  
 83. South-west of 38, and about half an hour in the direction of Ineli (Ινέλι).  
 Other mounds in this district<sup>2</sup> are reported at Mustaphakli (Μουσταφακλή)<sup>3</sup>, Supli (Σουπλή, Scotussa), and Bekidhes (Μπεκίδες), but we have not been able to examine them and therefore do not include them.

Between Pharsalus and Sophades are:

84. The mound on which stands the village of Pashá Maghúla (Πασά Μαγούλα)<sup>4</sup> just to the north of the stone bridge over the Enipeus.

<sup>1</sup> The village is called Aidhin, which is the Turkish *Aydin* (light).

<sup>2</sup> Karatsadaghli is the Turkish *Qaraçaya* (blackish), *Dağ* (mountain) *h* (the adjectival termination).

<sup>3</sup> Yiužlár is the Turkish *Yiyeşler* (faces): Daudzâ is derived from the Turkish *Dâvid* (David).

<sup>4</sup> The Turkish *Bash* (head).

<sup>5</sup> Kitik is the Turkish *Cedik* (foundation).

<sup>1</sup> Leake noticed this mound (*Northern Greece* IV, p. 353).

<sup>2</sup> The Turkish *Tash* (stone).

<sup>3</sup> The latter part of this is probably the Turkish *oba* (camp) with the possessive suffix.

<sup>4</sup> Cf. *Parthenon*, 'Appula, Top. G, p. 423.

<sup>5</sup> Possibly connected with the Turkish name *Münasa*.

<sup>6</sup> The Turkish title *Fazla*.

85. Five minutes west of Vasilí (Βασιλί).  
 86. The maghula of Ghuzghunári (Γουζγουνάρι), south of the railway and near block-house 76.  
 87\*. Ambélia (Αμπέλια), half an hour east of Pharsalus.  
 88. A few minutes to the south of Tsini (Τζίνη)<sup>1</sup>.  
 89. Near Betsilér (Μπετσιλέρ)<sup>2</sup>; on it stands a church.  
 90. Amongst the vineyards ten minutes to the south of Simíki.  
 91. Not far to the east of Laspokhóri (Λασποκόρι).  
 92. To the west of Laspokhóri, between it and the Enipeus.  
 93. To the north of the Enipeus near Khatsiobasi (Χατζηόμπασι)<sup>3</sup>.  
 94. A few minutes to the east of Orphana station.  
 95\*. Makriá Maghúla (Μακριά Μαγούλα), on the south-west slope of the hill on which are the ruins of Cierium.  
 96\*. Tsani Maghula: see Chapter VI.  
 97\*. Between 96 and the village of Dhemerlí, near the river of Pharsalus, and north of the railway.  
 98. The mound on which stands the southern part of Palamás (Παλαμάς).  
 99\*. Aya Eléni (Αγία Ελένη), a large mound on the left or north bank of the Peneus, forty-five minutes south of Zárkos (Ζάρκος). It would be interesting to excavate this mound which is the most northerly one in western Thessaly.

Between Dhomokos and Pharsalus are:

100. Just below the mills of Dhomokos, close to the carriage road, and cut through by the railway line.  
 101. To the north of 100, and on the right of the Dhomokos-Larissa line.  
 102. To the north-east of 101 and on the left of the Dhomokos-Larissa line.  
 103. About twenty minutes south of Yinekókastro (Τυνεκόκαστρο, Proerna), and on the east of the road.  
 104\*. On the western slope of the hill on which stands Proerna.  
 105\*. The acropolis of the Greek city at Tshatma: this is the same shape as the ordinary high mounds, and, though no prehistoric pottery has been found here, some celts have.

In the Spercheus valley are:

106. Just outside the village of Amuri, and to the east of it.  
 107\*. By the side of 106, and a little further east, a bored celt has been found here as also *Ursinus* pottery.  
 108\*. Paleómilos (Παλαιόμιλος), near Lianokladhí: see Chapter VIII.

In Phocis are:

109. Near Suvíla (Σουβίλα) station; Sotiriadhis has found monochrome, hand-made pottery here.<sup>4</sup>  
 110\*. North of Dhrakhmáni (Elatea), in the vineyards: see Chapter IX.  
 111. Twenty minutes south-east of Dhrakhmáni on the land of Dr Khevas: see Chapter IX.  
 112. To the south-east of Mánesi (Μάνεσι), see Chapter IX.  
 113\*. By the Kalívia (Καλίβια) of Aya Marta (Αγία Μαρτα). Here Sotiriadhis has found pottery like the so-called Kamares ware of Orchomenos: see p. 194.  
 114. In the pass from Daulis to Delphi at the Σχιστή Όδος by the monument of Meghas: see Chapter IX.

In Boeotia are:

115. Maghula-Bálonénu (Μαγούλα Μπαλωμένου), to the east of Chaerones station: see Chapter IX.

<sup>1</sup> Tsimas classes this (wrongly it seems to us) with the high mounds, Δ-Σ, p. 16. The word *Tsimi* is probably the Turkish *Çini* (china).

<sup>2</sup> Betsilér is probably from the Turkish *Bichmik*

(in prep.).

<sup>3</sup> Khatziobasi is the Turkish *Uzji-kası* (pilgrim's camp).

<sup>4</sup> *Prostíra* 1902, p. 130.

116\*. Orchomenos: see Chapter IX.

117\*. Poliyira (Πολιγύρα), east of Orchomenos: see Chapter IX.

118. Maghula by Pirghos: see Chapter IX.

119\*. Pirghos: see Chapter IX.

120\*. The fort of Ayios Ioannis (Άγιος Ιωάννης), east of Topólia (Τοπόλια) on the north shore of Kópais: Minyan ware and cist tombs containing Minyan ware have been found here, as also L.M. III ware.

121\*. The fort at the tower of Ayia Marina (Άγια Μαρίνα), on the south shore of Kópais, south-east of Topolia: L.M. III, Minyan, and monochrome hand-made ware have been found here, and cist tombs are believed to exist.

122. Ghulas: see Chapter IX.

Near Elassona are:

123. Mikrós Prophítis Ilias (Μικρός Προφήτης Ἰλαῖος) at Tsaritsani, half an hour south-east of Elassona. The mound stood on a low hill, but the prehistoric deposit has been washed down the sides by rain. The site was discovered by Mr. Ιωάννης Τσαριτσάνης, who has found here pottery of the Second Period (B3a, B2), and one piece of A52.

124. The mound on which stands the village of Maghula, in the Europos Valley about three hours south-west of Elassona. Monochrome hand-made ware is found here, and some L.M. II vases are said to have come from this site, see Chapter X.

## CHAPTER II

### THE PRINCIPAL CLASSES OF POTTERY AND CELTS

#### A. POTTERY.

THE sequence of the different classes of pottery found in North-Eastern Greece is now fairly well established by the collation of the results of excavations. The principal point on which information is lacking is the chronology of the earliest wares. The later fabrics can be dated approximately, since they have been found with Mycenean (Minoan), Minyan, and other southern wares. Further excavations in the Cyclades, Boeotia, and the Peloponnesus will probably throw fresh light on this and other obscure points, and the full publication of the pottery from Orchomenos and Tiryns will also be of great assistance.

In dealing with a prehistoric culture the pottery, especially when it is painted, is of prime importance in determining its relationship to other similar cultures, and is in this respect a far safer guide than architectural remains. We therefore propose before proceeding to describe the finds made at the excavated sites, to tabulate the principal classes of pottery found in this area. It is a truism that the history of any prehistoric site which has a deep, undisturbed deposit can be read in its pottery. It is for this reason that in the following pages we lay particular emphasis on the pottery rather than on any other class of objects. In the table of the different wares we have for the sake of convenience adopted and extended Tsundas' classification<sup>1</sup>.

The different classes which are all hand-made, unless otherwise stated, are as follows (cf. throughout list of illustrations of pottery, pp. 263 ff.):

A1. Monochrome red ware, well polished, excepting large and coarse vases, and usually thin and carefully finished. The most characteristic shape is a wide, open dish with incurving sides and a splayed lip on a high raised base: the handles are tubular and horizontal (Fig. 40 *e-g*, p. 87; Δ-Σ, Fig. 76, p. 64). Equally typical of this ware are the low bases attached to both bowls and mugs. The better specimens probably owe their deep red colour to the application of a slip. This ware is common throughout Thessaly, and the Spercheus valley, and is always found with the earliest painted pottery (A3α, A3β, A3γ, A3δ, A3ε, A3ζ, A5), but it must be borne in mind that the typical shape just described is most common in Central, South-Eastern, and South Thessaly. In Boeotia and Phocis the place of this monochrome red ware as a companion to the red on white painted pottery is taken by the black polished ware, A3γ.

<sup>1</sup> Δ-Σ, pp. 157 ff.

A2. Incised ware. The biscuit<sup>1</sup> is red, but sometimes black in the middle: the fabric is thick, but good. The patterns are formed by rows of wedge-shaped or round incisions arranged in simple geometric designs. Often the blank spaces in the field between the incised belts are covered with deep red or white paint, which is sometimes polished. In general this ware has a very modern appearance, and it is to be noted that so far it has been found only in North Thessaly<sup>2</sup>. Occasionally the patterns are formed by continuous lines. The commonest shape seems to have been similar to that of the first category of A3β.

A3a. White on red painted ware. This is decorated with matt white paint on a polished red ground. The patterns are of a simple geometric kind, and the fabric resembles A1. This class though not common is found throughout Thessaly and the Spercheus valley, and Tsundas notes that it is more common at Mezil Maghula (p. 9, no. 45) than elsewhere. It is of course the converse to A3β.

A3β. Red on white painted ware. The biscuit, which is often full of small, white particles, varies considerably in colour, but is as a rule buff. The patterns are painted on a white slip which covers the whole vase, and varies in colour from site to site. At Sesklo for instance the slip is of a yellow tinge, and at Zerelia it is dead white. The vases are usually polished though matt examples occur, and the inside is often unpainted or only partly painted. According to the character of the patterns employed this ware may be subdivided into three general categories, (1) South-East Thessalian, which differs locally, e.g. Tsangli, Sesklo, (2) West Thessalian which subdivides into an earlier and a later style, (3) Chaeronea. Of the first category the typical shape is a wide, open dish with a flat bottom and almost vertical sides, usually painted inside and out (Fig. 45, p. 93). The principal shape of the second category is a bell-shaped mug with a broad, ribbon handle set low down (Fig. 86 a, b, p. 140), and that of the third category is a round-bodied jar with a low, narrow neck, and sometimes with a raised base (Fig. 140 b-e, p. 198). This ware, though its characteristics are the same throughout the whole area, differs so much from site to site that one can only suppose that there were many small local potteries.

A3γ. Red painted ware. This is similar in every way to A3β, except that the patterns in red paint are applied directly to the biscuit, which is polished. Matt examples occur especially on the inside of vases, which are painted outside in the A3β style. This class is not common, and in the case of many fragments from Sesklo it is hard to decide whether they have a slip or not, and consequently whether they should be classed as A3β or A3γ. In any case this class is so closely connected with A3β that accurate distinction is not of vital importance. Occasionally in North Thessaly, e.g. at Rakhmani, and Argissa, the paint has a blackish tinge, and the ware resembles A3ε.

A3δ. Red on white painted ware, Lianokladhi style. This might almost be considered a fourth category of A3β peculiar to the Spercheus

<sup>1</sup> We use the word *biscuit* in the technical sense in which it is employed by potters, as a convenient name for the baked clay.

<sup>2</sup> See Chapter III.

valley; but it is so different in technique that it is better to class it separately. The vases were first covered with a creamy white slip, and over that was applied a thick coat of red paint. While the latter was still damp the potter took some fairly sharp instrument, such as a splinter of wood, and made a red on white pattern by scraping off part of the outer coat of red paint. Sometimes he scratched so deeply as to injure the white slip below, or else did not scratch deep enough, so that a thin layer of red remained over the white slip, which in consequence has a pinkish tinge. The typical shape is a bell-shaped mug with a vertical ribbon handle set low down (Fig. 119 c, p. 175). The clay is well refined, and the biscuit is usually red though occasionally purple. This ware is always polished.

A3e. Red-brown on buff ware. This so far has been found only at Tsangli. In most cases the patterns on this ware, as on A3d, seem to have been made by scraping away part of a coat of red-brown paint, which was applied directly to the ground without any intervening slip. After firing the vases were heavily polished, and this, coupled with the thinness of the paint, gives a blurred appearance to the surface. So far as the fragments enable us to judge, the principal shape of this ware is the same as that of A1. The fabric is good, and it is possible that this ware is a development of A1, for some vases, especially the jug shown in Fig. 40 h, p. 87, are partly decorated in this manner.

A3f. Pink on red ware. This has so far been found only at Rakhmani. The vases are decorated with linear patterns in pink paint applied directly to the surface, and the whole is polished. The bottoms of the vases were also sometimes decorated like those of  $\Gamma\iota\beta$ . The most usual shape seems to have been the same as that of the first category of A3b.

A4. Monochrome white ware. This has been found only at Rakhmani. The biscuit is cream-coloured and the surface is well polished.

A5a. Monochrome black ware. The fabric is good and the surface is well polished: the deep black colour seems to be due to the application of some pigment. This so far has been found only at Rakhmani.

A5b. Red-brown on grey-black painted ware. This is akin to A5a, and like it has so far been found only at Rakhmani. The rim of the vase was covered with some black paint, and occasionally decorated with rows of incised dots, and the lower part was painted with linear patterns in red-brown, and the whole well polished. The biscuit is grey-black, occasionally firing to reddish.

A5y. Black polished ware. Fine and well made; the biscuit is grey-black. This ware is typical of the first stratum at Orchomenos, where it occurs with red on white ware (A3b, third category) and has also been found at Chaeronea and Dhrakhmani with the same painted ware. The surface, which is well polished, is often decorated with groups of small, round knobs.

A6. Brown on white ware. This is very different from B3a in that the patterns are very simple and have no spirals, and there is always a white slip. It is never very highly polished, and never decorated on the inside. The few fragments known of this ware are all from Rakhmani.

B1. Monochrome undecorated ware. The biscuit is reddish, and not

always polished. When this class is found apart from the painted ware of the following classes, it cannot be distinguished from any other plain, hand-made prehistoric ware, especially the bulk of  $\Gamma_3$ . The fabric is thick, and the vases as a rule every day vessels for household purposes. The only important shape is a bowl similar to that typical of  $B3a$ .

$B2$ . Incised ware. The biscuit is usually grey-black, sometimes chestnut, and rarely red. The patterns are made up by combinations of lines, long and short, curved and straight: the use of dots and semicircles is rare. The designs show that peculiar conjunction of spiral and geometric elements typical of the painted pottery,  $B3a$ . This incised ware, in which the incisions were as a rule filled with white and rarely with red, occurs most frequently in South-Eastern Thessaly (see Chapter IV). The incised ware from Phthiotic Thebes, though it seems to resemble this class, should probably be classed as  $\Gamma_2$ , see Chapter VII.

$B3a$ . Painted pottery, Dhimini ware. This class, which takes its name from the site where it was first found, can be divided into three categories.

(1) White on red polished ware, which is easily distinguishable from  $A3a$  by its polished surface and thicker fabric. The biscuit is buff, and the colour of the surface, which varies from deep to pale red, was obtained by polishing, though in some cases a red slip may have been applied.

(2) Chocolate on cream, and black on red polished ware. The paint varies from chocolate to black, and the colour of the polished biscuit to which it is directly applied varies from red to yellow-buff. This category is not so strongly polished as the first.

(3) Black on white ware. The white surface is formed by a slip of varying thickness. The black paint sometimes inclines to a brown shade. This category is not always polished.

The vases of these three categories are often painted both inside and out: any two categories can be found combined on the same vase, one style inside and the other out. The patterns show a most remarkable combination of geometric and spiral elements (see Figs. 21, 22, pp. 45, 46). The typical shape, which is common to all three categories, is a wide, deep bowl narrowing in to a small, flat base (see Fig. 36, p. 76,  $\Delta-\Sigma$ , Pl. 9). This kind of painted pottery is very common in the East Thessalian plain from Volos to Tirnavos, but elsewhere is rare.

$B3B$ . Three-colour ware with black and white patterns on a red ground, or with black and red patterns on a cream ground. The constant characteristic of this ware is that the black is a secondary colour serving merely to outline designs in red or white. Sometimes vases are found which combine the characteristics of this class with those of  $B3a$  (usually the second category) one inside and the other out. The two principal shapes of this class are "fruitstands" (Fig. 59f, g, p. 109,  $\Delta-\Sigma$ , Pl. 10), and the "spit supports" described on page 61 ( $\Delta-\Sigma$ , Pl. 30).

$B3y$ . Three-colour ware, with black and red (often orange-red) patterns on a white ground. The commonest shape of this ware is again the "fruit-stand." The vases are always polished.

$B3d$ . Black on red ware with linear designs, often matt. This class in small fragments has a superficial resemblance to some specimens of the

second category of B<sub>3a</sub>, but differs from it very much in the character of the patterns and in the shapes of the vases, amongst which a peculiar kind of jug (Fig. 54 *c, d*, p. 104) and an odd type of bowl (Fig. 57 *f*, p. 107) are noticeable. This ware seems to occur mainly in West and Central Thessaly, for we have found it not only at Tsani and Tsangli, but also on other mounds in the same district. It has been found in Phocis and Boeotia as well, see Chapter IX.

B<sub>3e</sub>. Brown on buff ware. This is closely related on one hand to B<sub>3y</sub>, and on the other to B<sub>3d</sub>. The patterns are applied directly to the biscuit, which varies in colour from pale buff to a reddish brown. The clay is well refined and the fabric is thin. There are two prominent shapes "fruitstands" and "tumblers" (Fig. 54 *a, b*, p. 104). Often it is hard to decide whether a sherd should be classified as B<sub>3d</sub> or B<sub>3e</sub>. This ware occurs in the same areas as B<sub>3d</sub>, and like it is often matt.

B<sub>3f</sub>. Three-colour ware. This has so far only been found at Tsani and Tsangli. It seems to be akin to A<sub>3β</sub>, and the patterns are linear like the late style of the second category of that ware, of which indeed it may be a development. It is easily distinguished from B<sub>3y</sub>, for the red has no orange tint, and the patterns are far less pretentious.

F<sub>1a</sub>. This class of Tsundas' contains three different kinds of ware, and, as two of them are very important, we have subdivided it as follows:

F<sub>1a1</sub>. White on black ware. The patterns are of a very simple type, see Fig. 55, p. 105. The ware is well polished and the smaller vases are of thin fabric. The larger vases are coarser, less well polished, and often brown-black in colour. In all the biscuit is ashy grey in colour, and it is possible that the good black surface is due to the application of a kind of slip.

F<sub>1a2</sub>. Polished ware with black patterns on a grey ground. This ware seems to have been made by first covering the whole with a black slip and then scraping off some of it so as to leave a pattern reserved in the grey colour of the biscuit. Fig. 55 *n-p*, p. 105.

F<sub>1a3</sub>. Rippled or ribbed ware. This is the technique which Vassits, in discussing the Servian pottery<sup>1</sup>, calls the *Technik der eingedrückten Ornamente*. The surface of the vase is rippled so as to form a simple kind of zigzag pattern, Fig. 55 *m*, p. 105; Δ-Σ, p. 238, Figs. 138, 139.

F<sub>1β</sub>. Grey on grey ware. The biscuit is grey, and not much polished. On it are painted simple linear patterns in grey-black (Fig. 57, p. 107): whether this was the original colour of the paint or not is a matter of doubt. The fabric is good and thin, and the vases of this ware seem to have been valued, for there are many fragments with small holes bored along the edge which show that they had been broken and mended in antiquity. The most common shape is a bell-shaped mug similar to that of the second category of A<sub>3β</sub>, and as in A<sub>3γ</sub> the bottoms are often decorated.

F<sub>1γ</sub>. Crusted ware with designs in reddish pink and white. This falls into two categories: (1) the paint is thick and dusty, and comes off very easily; the whole vase is covered with one colour and spaces are reserved in it which are either filled up or outlined in the other colour (Pls. V, VI): very rarely is a pattern painted in one colour directly on the other: (2) the

<sup>1</sup> *Prähistorische Zeitschrift*, II, p. 29.

pattern is painted in one or both colours directly on the biscuit, and the whole is polished (Pl. IV 4); the paint is put on thickly and resembles barbotine work, and is hard. Under this category the next class Γιδ should properly be included. Not enough of this ware has been found to make it possible to distinguish any shape as characteristic except that described under Γιδ. The biscuit varies in colour from red-brown to grey-black.

Γιδ. Crusted ware with patterns in white paint. This variety, though classed separately by Tsundas, is really one of the shapes of the second category of Γιγ, a shallow dish painted inside and with a raised rim. In this variety as in Γιγ the patterns show both spiral and geometric designs.

Γιε. Under this head Tsundas groups the few fragments of vases of the kind usually known as Pre-Mycenean geometric, or by German archaeologists as Mattmalerei. The biscuit is yellow-buff, and on it are painted simple geometric designs in matt black or dark brown. One such vase was found at Sesklo in Tomb 9<sup>1</sup>, and another at Dhimini in Tomb M<sup>2</sup> with L.M. III vases and figurines. Thus they cannot be regarded as really Pre-Mycenean, but like much of the matt ware from Phylakopi, and the Mattmalerei pottery from Aegina and the Argolid, belong to the Late Minoan period. These vases and the few similar sherds found at Sesklo, Dhimini, and the Aidihiotiki Maghula<sup>3</sup> are probably imported from Southern Greece into Thessaly. With them is of course to be classed the Mattmalerei ware from Orchomenos, but till its publication makes it accessible we cannot be sure that some of it does not belong to classes B3δ, and B3ε, like the Chaeronea matt ware which Tsundas would include here. Therefore we have preferred to obliterate this doubtful class Γιε, and to name all pottery of Late Minoan date with matt black paint on a greenish yellow or yellow-buff ground Mattmalerei<sup>4</sup>.

Γ2. Incised ware. The biscuit varies in colour from red-buff to a grey-black, and the surface is usually polished, though there are unpolished or partly polished specimens. The patterns, which are as a rule of a simple geometric type, at times include a rude spiral. They are rendered by lines and irregular round holes made by pressing a blunt instrument into the clay. The patterns recall those of A2, but are much more coarsely made, and it is to be noted that in the ware of this class from Tsangli<sup>5</sup> only a very small part of the vase is decorated and that the patterns often divide the surface into blank panels. The incised ware from Phthiotic Thebes<sup>6</sup>, which from its coarseness seems to belong to this class though its patterns resemble B2, has one point in common with some of Γ2. A few of the Phthiotic Thebes sherds show between the incisions remains of painting in the style of the first category of Γιγ, and one sherd of Γ2 from Tsani and some from Zerelia also show traces of similar decoration<sup>7</sup>. But since at Tsangli, which is practically the only site where Γ2 occurs, sherds of B2 and Γ2 were found together, it is possible that they both belong to the same, the Second

<sup>1</sup> See p. 60.

<sup>3</sup> See Chapter VI.

<sup>2</sup> See p. 82.

<sup>4</sup> See Chapter VII.

<sup>5</sup> See Chapters IV and VII.

<sup>7</sup> See Chapters VI, VII.

<sup>4</sup> See below, pp. 21 ff.

(Neolithic) Period, and that  $\Gamma_2$  and the Phthiotic Thebes ware are merely local varieties of one big class of incised ware. But this problem cannot be settled till a good deal of all three wares has been found at one well-stratified site. Still there is no reason why incised ware should not have begun in the Second and lasted into the Third Period.

$\Gamma_3$ . Monochrome ware. This is the plain pottery that succeeded the  $B_1$  ware, and is divided by Tsundas into three categories, (1) wheel-made vases of black or grey-black clay, or in other words Minyan ware, (2) rude, hand-made vases, (3) hand-made vases of good fabric, usually polished.

This classification, however, for various reasons appears to us unsatisfactory, and we have consequently put the "Minyan" ware into a separate class by itself and arranged the other monochrome wares ( $\Gamma_3$ ) into the following groups<sup>1</sup> according to shapes rather than technique.

$\Gamma_3\alpha$ . Two-handled cups. The biscuit varies in colour from grey to dull red according to the firing. They seem to be sometimes hand and sometimes wheel-made: Fig. 103*g*, p. 156.

$\Gamma_3\beta$ . Shallow, two-handled bowls. These have a flat bottom, and the handles are usually of a peculiar raking type<sup>2</sup> which has many varieties. The biscuit is usually red or red-buff, and as a rule polished: Fig. 134, p. 186.

$\Gamma_3\gamma$ . High, wide bowls with small, vertical handles with a long attachment below against the body of the vase: no complete specimen as yet. The biscuit, usually polished, varies from black to dull red in colour: Fig. 79*f, o*, p. 131.

$\Gamma_3\delta$ . Shallow bowls with straight or incurving rims. At the point where the rim curves in on either side is a horizontal projection, which is sometimes bored for suspension holes. Larger and deeper examples, contemporary with those just mentioned, have in place of the projections, small, rudimentary, vertical ribbon handles. This type seems to have been a cooking vessel: Fig. 86*c, d*, p. 140.

$\Gamma_3\epsilon$ . Narrow-necked bowls. These are usually polished, and sometimes have the upper part of the body ornamented with shallow, oblique ribs in a manner that recalls  $\Gamma_1\alpha_3$ . They often have horizontal or vertical suspension holes and the biscuit varies in colour from black to dull red: Fig. 86*f*, p. 140.

$\Gamma_3\zeta$ . Askoi: Fig. 60*h*, p. 110.

$\Gamma_3\eta$ . Broad, shallow bowls with a rugose surface. These have a wide, flat bottom, and short, vertical sides which sometimes splay out. In fact they resemble the principal shape of the first category of  $\Lambda_3\beta$ . The biscuit varies from black to dull red, and the surface which is never polished is roughened by frequent shallow, sweeping lines.

$\Gamma_3\theta$ . Deep bowls, narrowing both to top and bottom with thick walls. These have small, vertical ribbon handles, or lugs, sometimes both, placed alternately round the sides. The biscuit varies from dull brown to brick red, and is usually polished: Fig. 58*a*, p. 108.

$\Gamma_3\iota$ . Wide, open bowls with flat bottoms and splayed lips, and horizontal loop handles. Biscuit usually brick red: Fig. 102, p. 156.

<sup>1</sup> In these, where not stated otherwise, it is to be understood that the biscuit varies in colour from black to brick red according to firing, and that both polished and unpolished specimens occur.

<sup>2</sup> Under "raking" we include the ordinary wishbone type, which is not strictly applicable to many of the North Greek examples.

$\Gamma_{38}$ . Small jars with narrow necks, no handles, and sometimes string holes in the lip. There are many varieties of this type: Fig. 61 *b*, p. 112.

$\Gamma_{39}$ . Conical lids with oblong peaks, bored horizontally; there are several varieties.

$\Gamma_{34}$ . Dishes with flat bottoms and straight sides splaying outwards.

$\Gamma_{35}$ . Small, handleless cups: Fig. 60 *d*, p. 110.

$\Gamma_{36}$ . "Fruitstands," shallow dishes on high, tapering stems: Fig. 59 *f*, p. 109.

$\Gamma_{37}$ . Small, one-handled cups: Fig. 60 *b*, p. 110.

$\Gamma_{38}$ . Small jars with flat bottoms, and short, vertical sides: Fig. 60 *a*, p. 110.

$\Gamma_{39}$ . Large-bodied, spouted bowls. These have a low base, horseshoe-shaped, and two lugs with a horizontal string hole by side of them: Fig. 23 *a*, p. 47.

$\Gamma_{40}$ . Deep, wide bowls curving in gradually to a round, flat base. These usually have a plain rim, but in some specimens it turns over: Fig. 24 *b, c*, p. 48.

$\Gamma_{41}$ . Small ladles or dippers. These have either a triangular, or a vertical loop handle on the rim.

$\Gamma_{42}$ . Deep, open bowls narrowing in sharply to a small raised base. They have a splayed rim, and at its base a rounded projection decorated with plain knobs: Fig. 23 *d*, p. 47.

$\Gamma_{43}$ . Tall, deep, open jars narrowing in to a rounded base. These have small ribbon handles (vertical or horizontal), or lugs, and sometimes both, placed alternately. Occasionally the handles are rudimentary: Fig. 24 *f*, p. 48.

$\Gamma_{44}$ . Deep bowls of coarse ware, with small lugs or rudimentary handles. Several varieties: Fig. 59 *a, b*, p. 109.

These are the principal varieties of this class of ware. Naturally many vases exist, usually single specimens, which it is impossible to group under any of the above heads, but these will be described later when we discuss the sites where they were found.

$\Delta_{1a}$ . This class consists of the peculiar geometric ware of the early iron age, which has been found at Marmariani, Theotoku, and elsewhere. It is as a rule wheel-made. The biscuit varies in colour from brick red to grey-black, and the patterns are painted directly on it in black or brown paint that is often semi-lustrous. This ware differs from the developed geometric ware of the so-called Dipylon style in the primitive nature of the patterns, and in the shapes of the vases. The exact relationship of this to other Thessalian wares cannot yet be determined, since up to now it has nearly all been found in tombs. For other details as to this ware see Chapter X.

$\Delta_{1b}$ . Primitive hand-made geometric ware. This is the typical ware of the third or latest stratum at Lianokladhi. The biscuit is brick red, and the patterns, of a simple linear type, are usually confined to the upper part of the vases. There is often a crossed circle painted on the bottom. The patterns are in thin, matt black, and are remarkable for the occasional introduction of a rude spiral, especially by the handles. Some examples are polished. For further details as to shapes, etc., see Chapter VIII.

$\Delta 17$ . This is the painted ware that corresponds to  $\Gamma 38$ . The patterns are of a simple geometric type, and painted in thin brown-black directly on the biscuit. The usual shape is a shallow bowl with long, raking handles (Fig. 127 *b*, p. 183,  $\Delta-\Sigma$ , Fig. 193, p. 272), but in this painted variety another shape occurs, a tall jug with a vertical loop handle (Fig. 127 *a*, p. 183). For this ware see also Chapter VIII.

$\Delta 22$ . This is the plain ware found with and corresponding to  $\Delta 14$ . It is a plain grey-black or brick red ware, mostly unpolished, and often wheel-made. The most striking shape is a kind of beaked jug with a round body and the back of the neck cut away above the handle (Fig. 37, p. 78).

Minyan Ware. This class of pottery was first found in any quantity by Schliemann at Orchomenos; it has since been found in such abundance in Furtwaengler's more recent excavations that we may not unreasonably regard Orchomenos as its home. It also seems best to keep the name first given to it by Schliemann without accepting the theory which connects this ware with the Minyans. It falls into two categories: (1) Minyan proper, which is the characteristic ware of the third stratum at Orchomenos; the biscuit is grey, and rather soft: the vases are thin and, as a rule, wheel-made, and their shapes seem to be to some extent imitations of metal work. The characteristic shapes of this category are (*a*) wide, open cups with high handles standing up above the rim (Fig. 32 *a*, p. 62), (*b*) goblets with a tall, ringed foot (Fig. 135, p. 187). Some specimens of this category have a red or yellow-brown surface, sometimes polished, and do not always appear to be wheel-made, and the biscuit is thicker; this is possibly an earlier variety than the good, grey ware. (2) Argive-Minyan: this category seems to be a local variety peculiar to the Argolid, though it has been found at Phylakopi. In this category the biscuit is black, often polished, and hard: and some of the vases are decorated with incised patterns. The principal shapes are (*a*) wide, open cups with high handles standing up above the rim, (*b*) goblets with tall, ringed feet, (*c*) open bowls with two small ribbon handles just under the rim, and a low foot. For further details about these two categories see Chapter VIII, and pages 223 ff.

Urfurnis Ware. This was first found by Furtwaengler at Orchomenos, where it is the typical ware of the second stratum. Since then it has been found at Lianokladhi, and at Tiryns. This ware may be divided into two categories: (1) Northern, this is found at Lianokladhi and Orchomenos<sup>1</sup>, (2) Southern, this is found at Tiryns and has some likeness to Early Cycladic and Minoan wares. For further details about this ware see Chapter VIII and pages 194 and 224. Previously<sup>2</sup> we have translated "Urfurnis" by "Black Lustre Ware," but as this is clumsy and inconvenient, we now prefer to call it Urfurnis Ware, for by this name it is now generally known. The vases are hand-made, and as a rule polished. The whole vase is covered with a thin semi-lustrous wash which varies in colour from red-brown to black-brown and black, while on inferior examples the paint appears as a series of smears.

Mattmalerei. This is the name usually given by German archaeologists

<sup>1</sup> The Orchomenos Urfurnis naturally occupies a middle position between the Tirynthian and that from Lianokladhi. <sup>2</sup> *Liverpool Annals*, 1909, p. 151.

to a ware that is sometimes known as Pre-Mycenean geometric. It has a wide range and has been found almost everywhere where Mycenean and Minyan pottery occurs. The vases are some hand-made, some wheel-made, and are decorated with simple linear patterns in matt black paint. The biscuit is usually greenish yellow, or yellow buff in colour, and naturally varies from site to site. It is impossible to say what shapes are characteristic of this ware, for we have no great quantity from any one site, but a pithos which is possibly a development of a type found in Early Cycladic III at Phylakopi seems very common. For further information as to this ware see Chapters VIII, IX, and XIV.

*The Sequence of the Wares.* Tsundas divides the prehistoric pottery of Thessaly into three periods, (1) First Neolithic, (2) Second Neolithic, and (3) Bronze Age. In the Bronze Age wares he includes Minyan, but not Mycenean or Mattmalerei. At the same time he uses Minyan ware as an argument to support his theory that throughout Greece, north and south, there was the same culture in the Bronze Age, just before the Mycenean Age, which latter according to him was universal throughout Greece. These views, however, do not fit the archaeological evidence. The finds at Mycenae, Eleusis, Orchomenos, and elsewhere show that Minyan ware and Mattmalerei were contemporary. Also the contrast between the rare finds of Mycenean (Late Minoan) objects in Thessaly, and their frequent occurrence in Southern Greece, shows that in Thessaly there never was a Mycenean Period in the sense that there was one in the Argolid. Mycenean objects in Thessaly, when not isolated, have always appeared in association with local wares. Thus by amending Tsundas' conception of the Thessalian Bronze Age, and by the collation of the stratification at the various sites we may divide the prehistoric pottery of Thessaly into four periods:

- (1) First (Neolithic) Period.
- (2) Second (Neolithic) Period.
- (3) Third (Chalcolithic) Period.
- (4) Fourth Period (Bronze Age).

The First and Second Periods are the same as those of Tsundas, and the Third and Fourth are obtained by dividing his Third Period.

To the First (Neolithic) Period belong all the wares classed under A. To the Second (Neolithic) Period belong all the wares classed under B. It must, however, be clearly understood that there is never a sharp division between the two periods, for in every case the First passes gradually into the Second. To the transition between the First and Second Periods belong the wares classed as  $\Gamma_1\beta$  and  $B_3\zeta$ , for though they begin in the First and end in the Second Period, they are most common where these two periods overlap.

To the Third (Chalcolithic) Period belong the following wares,  $\Gamma_{1a1}$ ,  $\Gamma_{1a2}$ ,  $\Gamma_{1a3}$ ,  $\Gamma_{1y}$ ,  $\Gamma_{1\delta}$ ,  $P_2$ , and as a rule the earlier and better specimens of  $\Gamma_3$ . This period also is not sharply divided from the second, and it seems to overlap it even more than the second overlaps the first.

To the Fourth Period (Bronze Age) belongs the great mass of  $\Gamma_3$ , and to its latter part belong the Minyan, Mattmalerei, and Late Minoan

sherds found in Thessaly. But the end of this period, when these southern wares occur, is still very obscure. This Fourth Period too is not sharply divided from the Third, and they overlap one another.

Thus a comparison of the stratification tables from the various sites, though it enables us to divide the remains into four periods, nevertheless shows that in spite of the changes that took place the development or rather degeneration of culture in Thessaly went on gradually without any violent break till the close of the Third Late Minoan period. As to the comparative lengths of the various periods, we may express their relation to one another best by dividing the whole time occupied by them into twenty parts. Of these we would assign  $\frac{1}{20}$  to the First Period, of which  $\frac{2}{5}$  are to be given to its earliest stage when painted ware is rare,  $\frac{1}{20}$  to the Second Period,  $\frac{3}{20}$  to the Third Period, and  $\frac{4}{20}$  to the Fourth Period, of which  $\frac{1}{5}$  are to be given to its latest stage when Minyan and Mycenean wares occur. This it must be remembered applies to Thessaly only, and not to Malis, Phocis, or Boeotia. The questions as to the chronology of the Thessalian finds in the light of the discoveries in Crete and Southern Greece, are discussed in Chapter XIV.

### B. CELTS.

Next to the pottery the different types of celts or stone axes found in prehistoric settlements are the most important evidence, and in conjunction with the pottery are invaluable for forming an estimate of the culture of the period. The stone axes found in Thessaly may be conveniently divided into the following classes, which are practically the same as those of Tsundas<sup>1</sup>:

*Celts.* A. Long, round celts with pointed butts (Fig. 111 g, p. 164): these are fairly large as a rule, and though the surface is well smoothed, not polished all over.

B. Broad, flat celts usually triangular in shape (Fig. 111 d, p. 164), though some have blunt butts: these are well polished, and it often happens that one side is flat, while the other is slightly convex. They are usually small or of a medium size.

C. Long, flat celts with square butts, and rectangular in section (Fig. 111 m, p. 164): these are large, and, as a rule, polished.

$\Delta$ . Small, flat celts with blunt butts and bevelled blades (Fig. 111 l, p. 164): this class is closely connected with class B: they are usually polished, and often triangular.

E. Bored celts, these are always bored parallel to the blade, and have a heavy, rounded butt: both sides slope gradually to the blade. Two fragments of bored axes of exceptional shape from Sesklo and Zerelia are described below.

*Chisels.* There are two main types: (a) thick and flat, with a narrow, bevelled blade (Fig. 111 b, p. 164); (b) thin, rounded, long, and narrow with pointed butts (Fig. 111 r, p. 164). As a matter of fact these two types correspond to classes  $\Delta$  and A of the celts: there are also other small celts which though probably used as chisels, can all be classified under the types given above, especially B, and there is no need to group them separately.

<sup>1</sup> Δ. 3, pp. 307 ff.

The different methods employed for hafting celts deserve a little notice. The bigger celts were probably lashed into cleft or forked sticks, and some may even have been used without hafts at all. The small celts and chisels according to finds from Sesklo and Dhimini, were set in one end of a short tubular piece of deer horn. There seem to have been two methods of fixing this deer horn socket on to the haft proper, either by fitting the other end on to the hook of a hooked stick<sup>1</sup>, or by setting a haft in a hole drilled through the socket at right angles to the blade<sup>2</sup>.

Often small celts, especially of classes B and F, are found, which show signs of having been sawn in two longitudinally, or of an attempt to do so<sup>3</sup>. This was apparently done when by frequent grinding and sharpening the length of the celt had become too short in proportion to the width of its blade for it to be conveniently hafted. If such a celt were sawn longitudinally, two celts would be obtained, in each of which the length of the whole would be far greater than the width of the blade. The sawing was done from both sides, and when by this means the celt had been sawn two-thirds through, it would be broken by a sharp blow.

Similarly the bored celts were as a rule bored from both sides, though examples bored from one side only also exist. The drills used were both solid and hollow as is shown by an incomplete club-head from Sesklo, and an unfinished celt from Phthiotic Thebes in the Almiros Museum<sup>4</sup>.

As to the relative dates of the various types of celts not much is known, but the following points are to be noted. Type A always occurs with the pottery of the First (Neolithic) Period, and since it does not occur at Dhimini or Phthiotic Thebes, where no deposits of that period were found, it may be assumed that it is peculiar to that period. Type A is common in all periods: type B is common in the first two (Neolithic) periods, but rare in the two later; type F is more common in the Third (Chalcolithic) Period and in the Fourth (Bronze Age) than in the first two periods. As for bored celts and hammers, the earliest examples occur in the Third (Chalcolithic) Period, but they are not common till the Fourth (Bronze Age). We thus see that the small cutting tools (types B and A), which are common in the two neolithic periods, do not occur in the bronze age, when they would naturally be replaced by metal. On the other hand the heavy axes and hammers which would not lose their usefulness after the introduction of bronze continued in use<sup>5</sup>.

<sup>1</sup> A-2, p. 316, Fig. 241.

<sup>2</sup> A-2, p. 317, Fig. 243.

<sup>3</sup> A-2, p. 310, Fig. 234, Pls. 39, 2, 6, 40, 16.

<sup>4</sup> A-2, p. 323, Fig. 249; p. 324, Fig. 251.

<sup>5</sup> At Aya Marina in Phocis (p. 11, no. 113).

Dr Sotiriadhis has recently found, apparently in connection with red on white pottery, a hoard of bronze weapons. Amongst them is a small leaf shaped dagger which from its type seems to be of Early Minoan date. Thus on the outskirts of the North Greek area there is now evidence for metal in the first prehistoric period. Nevertheless, owing to the great quantity of stone and bone implements,

even up to the Fourth Period, we have preferred to retain the name neolithic for the first two periods in Thessaly. The bronze weapons may well be imports from Crete or elsewhere, especially since the district in which they have been found soon became separated from Thessaly, and under the influence of the South. Chronologically the find seems to confirm the view (p. 237) that the First Period in North Greece is contemporary with the earlier part of the Early Minoan age. Dr Sotiriadhis' publication of these and his other important finds should throw more light on these questions.

## CHAPTER III

### NORTH THESSALY

#### A. RAKHMANI.

THE road from Larissa to Tempe after passing the Nessonian marsh enters a small valley between two low, outlying ranges of Ossa that run almost parallel with the Peneus. The valley is well watered and shows signs of having once been better wooded than it is now. About half way along it the ruins of the deserted village of Rakhmani are visible at the foot of the eastern hills. In the fields between them and the railway line stands the mound known as the Maghula of Rakhmani (p. 10, no. 76), which attracted the attention of Lolling<sup>1</sup>, who thought he saw the remains of walls on it. This mound, which is about eight metres high and 112 by 95 metres in area, is, except for the mounds at Tsatobasi and Makrikhorit<sup>2</sup>, the most northerly mound yet found in this direction. Therefore it seemed a favourable site for excavations. We excavated here from the 14th to the 27th April 1910, and the finds are now in the Museum at Volos.



FIG. 3 The Maghula of Rakhmani from the south.

Excavations showed that the mound, like all the other prehistoric mounds, was formed by the rubbish and ruins of successive hut-settlements built one on another. Owing to the sides having been broken down by ploughing it was not easy to observe minor details in the stratification, especially of the uppermost layers. Therefore we have divided the total deposit, which is at the highest point 8·10 metres deep, into four main strata, though of course minor

<sup>1</sup> *Arch. Mitt.* 1887, p. 108.

<sup>2</sup> p. 10, nos. 73 and 77.

subdivisions could be made. The lower strata were tested in the usual manner by shafts arranged in a row across the mound, and sunk down to virgin soil. We cleared two small areas in the upper strata, where we found the remains of houses. A levelling instrument was in use throughout the excavation.

### Pottery.

#### Stratum I, First (Neolithic) Period.

A1. Monochrome red ware, similar to that from other sites, but especially like that from Tsani, the majority of the sherds are rather thick and not very well polished, and in colour often brownish. There is a fair amount of the fine red ware so characteristic of the early strata at Tsangli, Sesklo, and Zerelia. The shapes found are these: (a) wide, open dishes on high bases, the typical shape, (b) bell shaped (?) mugs with vertical ribbon handles set low down, (c) open bowls with round bodies and a plain lip, (d) narrow necked bowls, large and small with high or low rims, (e) flat bottomed dishes with almost vertical sides, (f) small jars with low bases. In general most of the shapes mentioned had low bases, but there are no complete specimens.

Amongst odd shapes we may note the peculiar vase shown in Fig. 4; an oblong table with the short ends turning upwards slightly, and five legs, one in the middle and four at the corners; two fragments of ring handles with cups attached to them like those from Tsani; an odd shaped piece of rim; several examples of string holes and lugs, and one fragment with the handle represented by a loop in relief.

A2. Incised ware: five pieces of the ordinary style were found. There is also a piece of brick red clay, unpolished, with a gashed surface. A peculiar vase is seen in Fig. 5; this is a square box on a high stand and with the corners pierced transversely.

A3. Red on white ware: a fair amount was found, but it cannot be said to be common. The patterns on the best pieces resemble those of the second group at Tsangli (Fig. 46, p. 94), but simple linear patterns also occur. There is one fragment similar to the first group of Tsangli patterns (Fig. 47*l, m, p*, p. 95) which is probably derived from the Sesklo district, since it is of the characteristic shape (Fig. 31, p. 59, Δ-Σ, Fig. 84 *c*). The shapes are these: (a) flat bottomed dishes with almost vertical sides, the typical shape, (b) plates on high feet like those from Lianokladhi (Fig. 120, p. 176); (c) narrow necked bowls with low rims. Owing to the character of the soil about half the fragments are in bad condition.

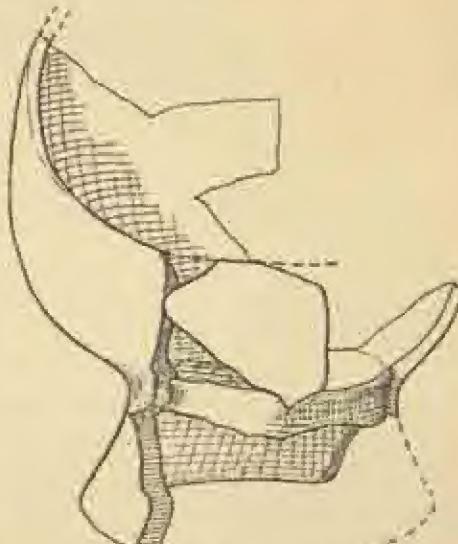


FIG. 4. Vase (A1) from Rakhmani I  
(scale 1 : 2)

A3γ. Red painted ware: a very fine fabric and similar to the specimens from Tsangli and elsewhere. The paint is applied thinly, and with the heavy polishing the plain linear patterns are liable to smear. It has some resemblance to A3ε. All the pieces, with one exception, the rim of a large bowl, are from small vases, but the shapes are unfortunately indeterminable. A fair amount was found.

A3ζ. Pink on red ware (Fig. 20 a-f): fairly common, it in no way resembles A3α. The biscuit is dull red and well polished, directly on this are painted linear patterns in thick dull pink paint which in some specimens,



FIG. 5. Incised vase (A2) from Rakhmani I (scale 9 : 10).



FIG. 6. Three coloured sherd (B3γ) from Rakhmani I (scale about 1 : 1).

owing to irregularity of firing or quality, has turned white. The vases are fairly thick and large, and well polished. Another peculiarity is that like Γ1β some vases are painted on the bottom as well (Fig. 20 a, b). Shapes: (a) dishes with flat bottoms and almost vertical sides like the typical shape of A3β, (b) plates on high feet, cf. Fig. 120, p. 176. Amongst odds and ends a piece of a ribbon handle should be noticed.

A4. Monochrome white ware: the biscuit is cream coloured and the surface heavily polished. Not common: the most usual shape seems to

have been a bowl with a heavy rim. With this we might perhaps class a considerable number of fragments with a polished white slip, but a red biscuit. They may be unpainted pieces of A<sub>3</sub>B, or they may be an attempt to get the colour of the clay of A<sub>4</sub> by means of a slip.

A<sub>5a</sub>. Monochrome black ware, of good fabric and well polished. The deep black colour is probably due to some pigment. Shapes: (a) deep bowls narrowing in sharply to the base, cf. Pl. II 7, (b) small rimless jars. Fairly common.

A<sub>5B</sub>. Red-brown on grey-black ware: the biscuit is dark grey, at times firing to reddish. The upper part of the vases was covered with a black pigment, and the rest decorated with linear designs in red-brown, and the whole then well polished. One specimen is painted inside as well as out, and another has two rows of incised dots on the black rim. Shapes: (a) deep, open bowls narrowing in sharply to the base (Pl. II 7), where the rim begins the wall of the vase is thicker and at intervals pierced with vertical string holes; (b) small, open cups.

A<sub>6</sub>. Brown on white ware with linear patterns on a white slip. This is quite different from B<sub>3a</sub>, contrast Figs. 20 g-*l* and 22. The patterns show no spirals and none of the sixteen sherds found in I are decorated inside.

These are the characteristic wares of the first stratum, and except for a few stray sherds they do not occur in II. Still the transition is not abrupt. Low down near virgin soil painted ware was less common. Also in I were two sherds of B<sub>3y</sub> with red and brown decoration on a white slip (Pl. II 6), though similar to the ordinary B<sub>3y</sub>, they seem more akin to A<sub>5B</sub> and A<sub>6</sub>, one fragment is from a fruitstand (Fig. 6). There were 42 sherds of B<sub>3a</sub>, 33 of the first and nine of the second category: the only remarkable piece is part of a handle with an animal on it (Fig. 26 *o*).

#### Stratum II, Second (Neolithic) Period.

In this the following wares of the first stratum appeared: A<sub>1</sub> a dozen fragments, including a piece of a vase on legs; A<sub>3B</sub> two sherds; A<sub>3y</sub> six sherds; A<sub>5C</sub> one sherd; A<sub>5a</sub> and A<sub>5B</sub> 25 sherds, including two in which the lower part of the vase is unpainted and of a brick red colour; A<sub>6</sub> five sherds.

B<sub>1</sub>. The bulk of the monochrome ware from this stratum has little to distinguish it from Γ<sub>3</sub>, which is found in strata III and IV. But since it was found with the painted pottery classed under B<sub>3a</sub> it is better to consider it as B<sub>1</sub>. These are the shapes: (a) wide, shallow bowls, narrowing to a small, flat base (Fig. 7 *a*, mended in antiquity, cf. Δ-Σ, Fig. 106), this has many varieties, several of which have great likeness to the common shape of B<sub>3a</sub>: many fragments have projecting knobs; pierced or unpierced, under the rim, and some have horned projections on it. (b) two handled mugs narrowing in towards the rim, the best example (Fig. 8 *a*) is noticeable for the plastic spirals at the top of the handles. (c) fruitstands, few fragments were found. (d) large, deep bowls with thick walls and slightly rounded bottoms, these have either lugs or vertical handles, sometimes both, placed alternately (Fig. 7 *b*). (e) mugs or jugs with one or two handles (Fig. 8 *b*). There were also fragments of Γ<sub>3a</sub>, several raised bases, some pieces of Γ<sub>3p</sub>, and finally many

fragments from large, flat bottomed dishes with almost vertical sides, which have a general resemblance to the rugose ware, Fig. 7. A jug in the form of an ear should also be noted.



FIG. 7. Vases (B1) from Rakhmani II (scale 1:4).



FIG. 8. Vases (B1) from Rakhmani II (scale 1:4).

B2. Incised ware: not many sherds were found. The two best specimens are shown in Fig. 9: the two handled cup with small feet is claret



FIG. 9. Incised vases (B2) from Rakhmani II (scale 1 : 2).



FIG. 10. Incised sherds (B2) from Rakhmani II (scale 2 : 3).

coloured, and the bowl is brown. In both the incisions were filled with white. There are four more pieces of bowls in brown-black ware with white filled incisions: the two pieces shown in Fig. 10 are remarkable for their patterns, which almost suggest hieroglyphs. It is noticeable that the best sherds show a combination of spiral and geometric ornament similar to B3a. Three coarse fragments with incised lines and one with punched dots resemble the two peculiar pieces from Sesklo figured by Tsundas ( $\Delta$ - $\Sigma$ , Figs. 151, 152) and classed as  $\Gamma$ 2.

B3a. Dhimini ware: a large quantity of all three categories was found, and it is the typical ware of this stratum (Figs. 21, 22). In many cases it is hard to tell poor specimens of the black on red style of the second category from the first, for the black paint has become a kind of dull white. Also between the chocolate on cream style of the second category and the third there is liable to be confusion, for it is often hard to recognise the thin creamy white slip of the third category. This last is the only category that is slipped, for in the first two the decoration was applied directly to the biscuit, and the whole then polished. Often pieces are found which combine both styles of the second category, one inside and the other out. The shapes are: (a) wide, deep bowls narrowing in to a flattened base (Fig. 36, p. 76), painted inside and out, and with projecting knobs under the rim (usually four) which are bored vertically for string holes often in pairs: in examples in which the string holes had ceased to be useful, they developed either into animals' heads or into a sort of horn on the rim: of these last we found several examples: this is by far the commonest shape, and with comparatively few exceptions all the fragments come from specimens of it, (b) fruitstands, not more than a dozen probable pieces, (c) jugs, cf.  $\Delta$ - $\Sigma$ , Fig. 118, we found several examples in the black on red style of the second category, see Pl. I, Fig. 11 a, b: these have wide, rounded bodies, sloping in gradually to neck and base: the neck is rarely sharply divided from the body, the handles, which are vertical, are always on the shoulder, (d) small mugs, we found one, similar to that from Sesklo ( $\Delta$ - $\Sigma$ , Pl. 21, 3), but its base is square with rounded angles: other varieties of this type of mug with the sides splayed out (in fact a cross between a cup and the typical shape) are to be seen in two examples of the first category, which are especially noticeable for their fine fabric (Figs. 12, 21 a, d). The patterns of this ware as usual show a remarkable mixture of spiral and geometric motives. This is the more surprising since in the painted wares of the First Period spirals do not occur. Typical examples of the patterns are to be seen in Figs. 21 and 22.

B3b. Three colour ware: six unimportant sherds were found.

B3y. Three colour ware: three unimportant sherds, one of which resembles the peculiar pieces of this ware from I.

$\Gamma$ 1y. Crusted ware: thirteen pieces were found.

#### Stratum II1, Third (Chalcolithic) Period.

B1. A quantity of pottery that resembles that classed as B1 from II occurred in this stratum, amongst which are several pieces from polished bowls like the typical shape of B3a. But as this has been described above, it calls for no notice here.

B2. Incised ware: two small, unimportant fragments, also three pieces (one with dots and two with lines) of rough incised ware that has no likeness to B2, and very little to F2.

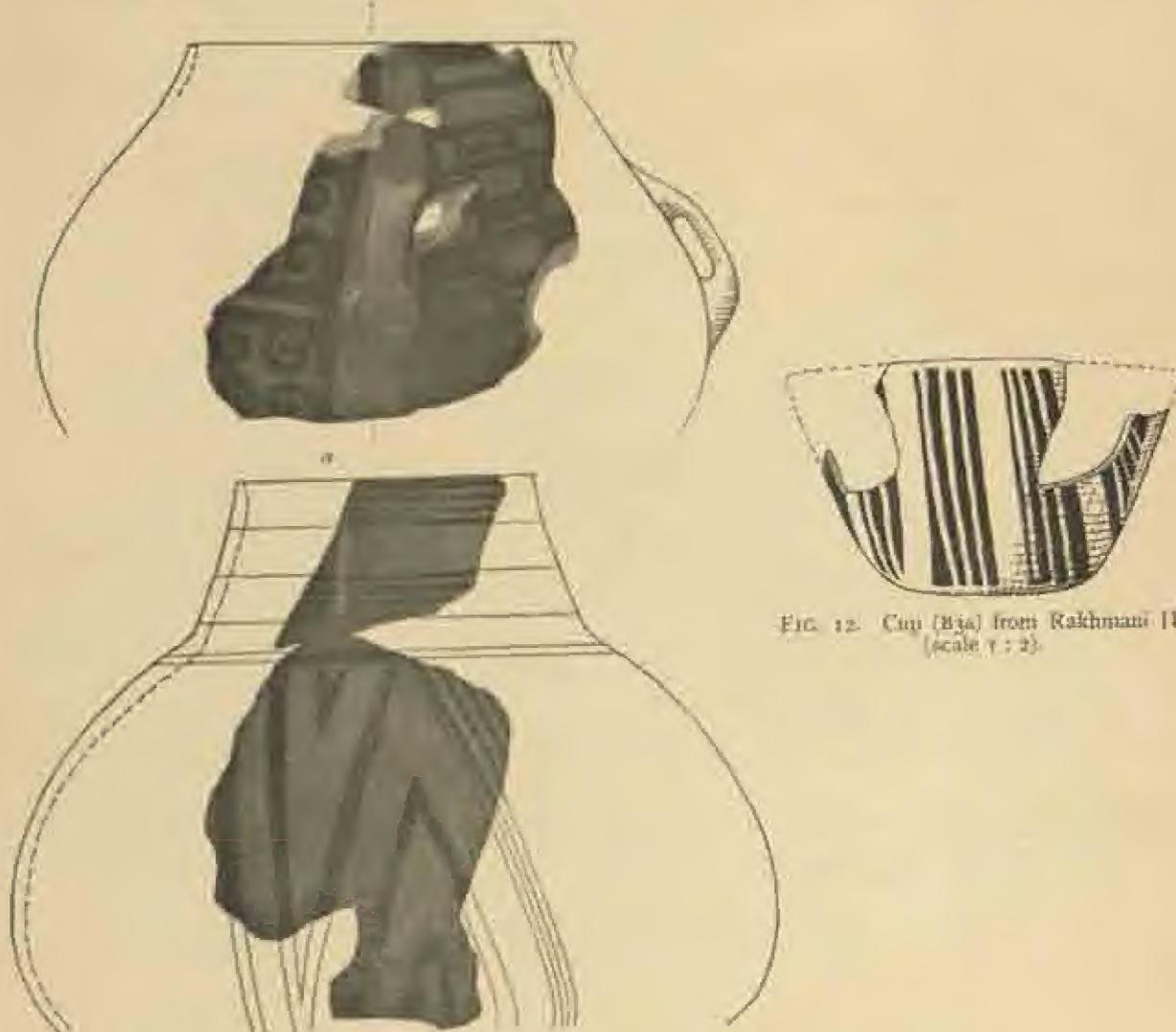


FIG. 11. Jugs (B3a) from Rakhmani II (scale 1:3).

B3a. Dhimini ware: a fair amount was found, but not nearly as much as in II. The fragments are of all styles and categories, and with the exception of a fragment of a fruitstand, a handle and two or three pieces of jugs, all of the typical shape.

B3e. Brown on buff ware: one fragment.

F17. Crusted ware: this is the typical ware of this stratum and it is fairly common in it. The fragments found belong to both categories (Pls. IV 1—4, V, VI) which have been described above. The following shapes are recognisable: (a) wide, open dishes with rounded bottoms, two examples

of the first category painted inside and out, from House Q (Pls. V, VI), (b) shallow bowls with rounded bottoms and straight sides, one specimen from House Q, of second category (Pl. IV 4, Fig. 13), (c) deep bowls with plain rims ( $\Delta-\Sigma$ , Pl. 12, 1), or with narrow necks (Pl. IV 1, which has three holes bored through the base of the neck), these, which belong to the

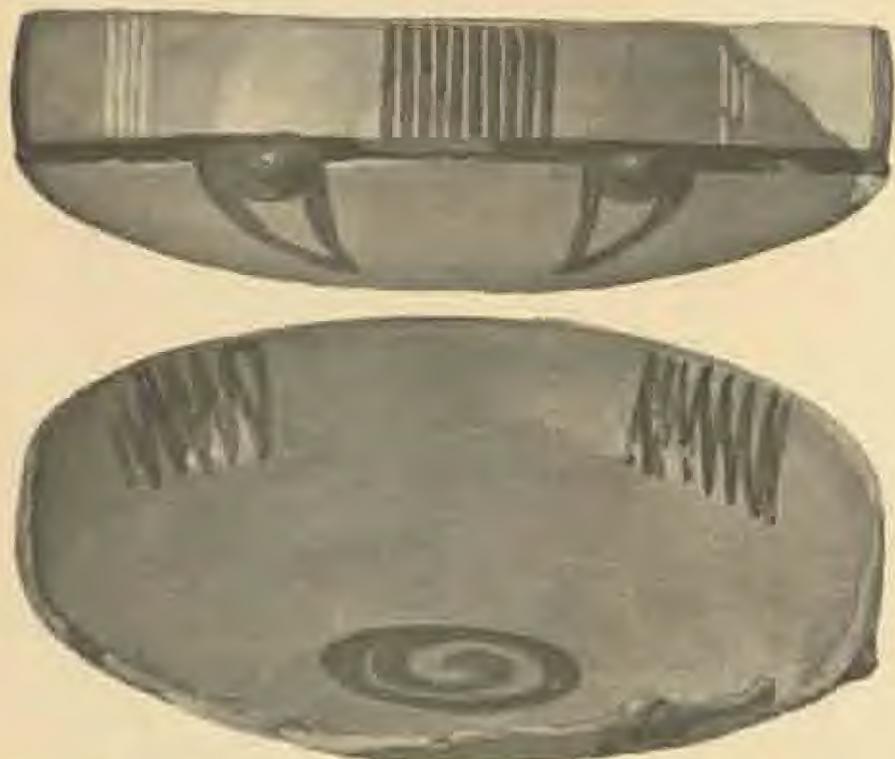


FIG. 13. Vase (Try) from House Q, Rakhmani III (scale 2 : 3).

first category, probably had a high base, cf.  $\Delta-\Sigma$ , Pl. 12, 1, 6, (d) small cups, see Fig. 14 of first category. We also found some handles like those from Dhimini ( $\Delta-\Sigma$ , p. 245, Fig. 146), and a piece of a bowl with a horned attachment on the rim like B3a. The patterns as seen in the illustrations consist of spirals, triangles, semi-circles, and groups of short, parallel, straight or curved lines. In the first category the paint is matt, but in the second it is polished.

F18. Crusted ware: this is really one variety of the second category of F17. Only one colour is used, white, and only one shape, a flattish plate with a heavy rim and decorated inside (cf.  $\Delta-\Sigma$ , Figs. 147-150). Two fragments were found in this stratum.

F3. Monochrome ware: of this class we found a great quantity in this stratum, the following shapes are recognisable:

w. & t.

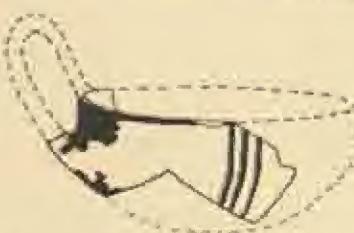


FIG. 14. Cup (Try) from Rakhmani III (scale 1 : 2).

Γ<sub>3α</sub>. Two handled cups, not like those from Zerelia VIII and Tsani VIII, but well made of red clay, and polished, and with vertical ribbon handles rising high above the rim, sometimes with a horn on top.

Γ<sub>3δ</sub>. Wide, shallow bowls curving in to the base, and with straight rims. At the foot of the rim there are knobs (often in pairs) or horizontal string holes. All specimens polished.

Γ<sub>3κ</sub>. Small jars with narrow necks and no handles, a few examples.

Γ<sub>3μ</sub>. Flat bottomed dishes with straight sides splaying outwards: several fragments which often have little knobs on or just below the rim.

Γ<sub>3ξ</sub>. Fruitstands, two fragments.

Γ<sub>3ο</sub>. Small cups, handleless: one specimen with splayed sides and a horizontal string hole, and a set of three very small examples from House Q, Fig. 28 *c-e*.

Γ<sub>3ρ</sub>. Large, spouted bowls with horseshoe bases, and two lugs with horizontal string holes by side of them: several fragments: Fig. 23 *a*.

Γ<sub>3σ</sub>. Deep bowls curving gradually to a small flat base, see Fig. 24 *c*: this is the typical shape of Stratum IV: a good many pieces were found.

Γ<sub>3τ</sub>. Small ladles or dippers with triangular handles on the rim: three fragments.

Γ<sub>3φ</sub>. Deep bowls with thick walls and slightly rounded bottoms, with vertical ribbon handles and lugs placed alternately. No complete example, but many fragments that probably belong to this shape.

In addition to these there are a large number of fragments from coarse, large bowls, basins and mugs (the shapes cannot be determined) with vertical, ribbed, loop handles on or just below the rim. Several of the handles have horns on top, and one has a wavy raised line on either side: other fragments have knobs, either plain or ending in two small horns, and one knob is pinched into the shape of a handle, but not pierced: one piece has a pair of horizontal string holes bored one below the other through an oblong projection. Besides these there are two pieces of strainers and two odd pierced fragments.

Pithoi. Fragments of these are not common in this stratum, where they appear for the first time at this site. There are a few large pieces which are probably from large store jars. Vertical loop handles occur, but there is no modelled or applied decoration: one fragment of a rim from House Q is decorated with three rows of round holes.

#### Stratum IV, Fourth Period (Bronze Age).

B<sub>1</sub>. One fragment of a horn from the lip of a bowl like the typical shape of B<sub>3α</sub>.

B<sub>2</sub>. Incised ware: four pieces, one with crossed lines, cf. Δ-Σ, Pl. 16, 1.

B<sub>3α</sub>. Some of this ware was found, nearly all of the chocolate on cream style of the second category, but the other categories are scarcely represented.

Γ<sub>1γ</sub>. Crusted ware: fifteen sherds: the only piece worth noting is a handle similar to that from Dhimini, Δ-Σ, Fig. 146.

Γ<sub>1δ</sub>. Crusted ware: two fragments.

Γ<sub>3</sub>. This is the typical ware of this stratum and enormous quantities were found; the principal classes are as follows:

Γ3α. Two handled cups, one certain specimen like those from Zerelia VIII and Tsani VIII, and a few doubtful fragments.

Γ3δ. Wide, shallow bowls with horizontal string holes just under the base of the rim, a few pieces.

Γ3ε. Small jars with narrow necks, a few pieces.

Γ3μ. Dishes with flat bottoms, and straight sides splaying outwards, a few fragments.

Γ3ν. Small handleless cups, three.

Γ3ρ. Large spouted bowls with a horseshoe base, lugs and string holes: one almost complete (Fig. 23 θ) and many fragments.

Γ3σ. Deep bowls curving gradually to a small flat base, in most specimens the rim is plain, but in some it curves in. This is the typical shape of this stratum and very common. For the profiles, types of the handles, string holes, etc., see Fig. 24 δ, ε. Several fragments seem to have a thin slip, usually red, but it shades to dull yellow according to firing. The unslipped examples are well made with moderately thin walls and well polished.

Γ3τ. Small ladles or dippers with triangular handles on the rim: a few examples.

Γ3ν. Deep open bowls narrowing in to a small raised base, with a splayed rim and at its base a rounded horizontal projection decorated with plain knobs: one almost complete from House Ρ (Fig. 23 ι) and several other pieces.

Γ3φ. Deep bowls with thick walls, slightly rounded bottoms, and small vertical handles and lugs arranged alternately. One complete example, which contained the bones of a baby, found by side of House Ρ (Fig. 24 ι); also many other pieces.

In addition there are many fragments of bowls, the shapes of which cannot be determined with any accuracy except in the case of the two here illustrated (Fig. 23 δ, ε). Knobs just below the rim or on the shoulder are common, and vertical string holes occur. Lugs ending in two small horns, and in the shape of ears are found. Also to be noted are several examples of rough oblong four legged tables (Fig. 23 ί) of coarse unpolished ware, and some pieces of strainers.

Pithoi, common in this stratum: the ware is thick and coarse. They have heavy rims decorated with incised patterns: other pieces have applied ribs pinched with the fingers to resemble ropework. Small vertical loop handles occur, one has a hole bored through it at the top, and round knobs. Typical samples are seen in Fig. 15.

Δ1α. A fair number of fragments of this ware were found at the bottom of the east slope of the mound, where the earth brought down from the top by ploughing has accumulated. They were mixed up with the Mycenean sherds and so seem to be contemporary. They do not differ from the usual style of this ware, as shown in the finds from Marmariani and Theotoku.

Mycenean ware: a fair quantity was found all over the top of the mound, but especially at the bottom of the east slope with Δ1α ware. It is all of the latest style (L. M. III), and many pieces might even be called Sub-Mycenean. The usual shape is the ordinary Mycenean kylix, another shape is shown in the vase from the tomb (Fig. 23 ε), and it is remarkable that there are no

fragments of *bügelkannen*. In technique the ware, which is of course wheel made, is good, but the paint and patterns are very degenerate: linear patterns are common, but spirals rare.

It will be seen from a consideration of the pottery of the four strata that after the second there is a steady degeneration till the advent of wheel made Mycenean and *Δια* wares at the end of the fourth stratum just before the site



FIG. 15. Pithos fragments from Rakhmani IV (scale 1:2).

ceased to be inhabited. The presence of *Β3a* sherds in the fourth stratum may seem strange, but this ware is so common in the second stratum that the surface soil of any succeeding settlement was almost certain to contain a few sherds of it. Consequently it is only natural to expect a little of it to appear in IV.

The following diagram (Fig. 16) will explain the details of the stratification of the different wares, and their relation to the four periods.

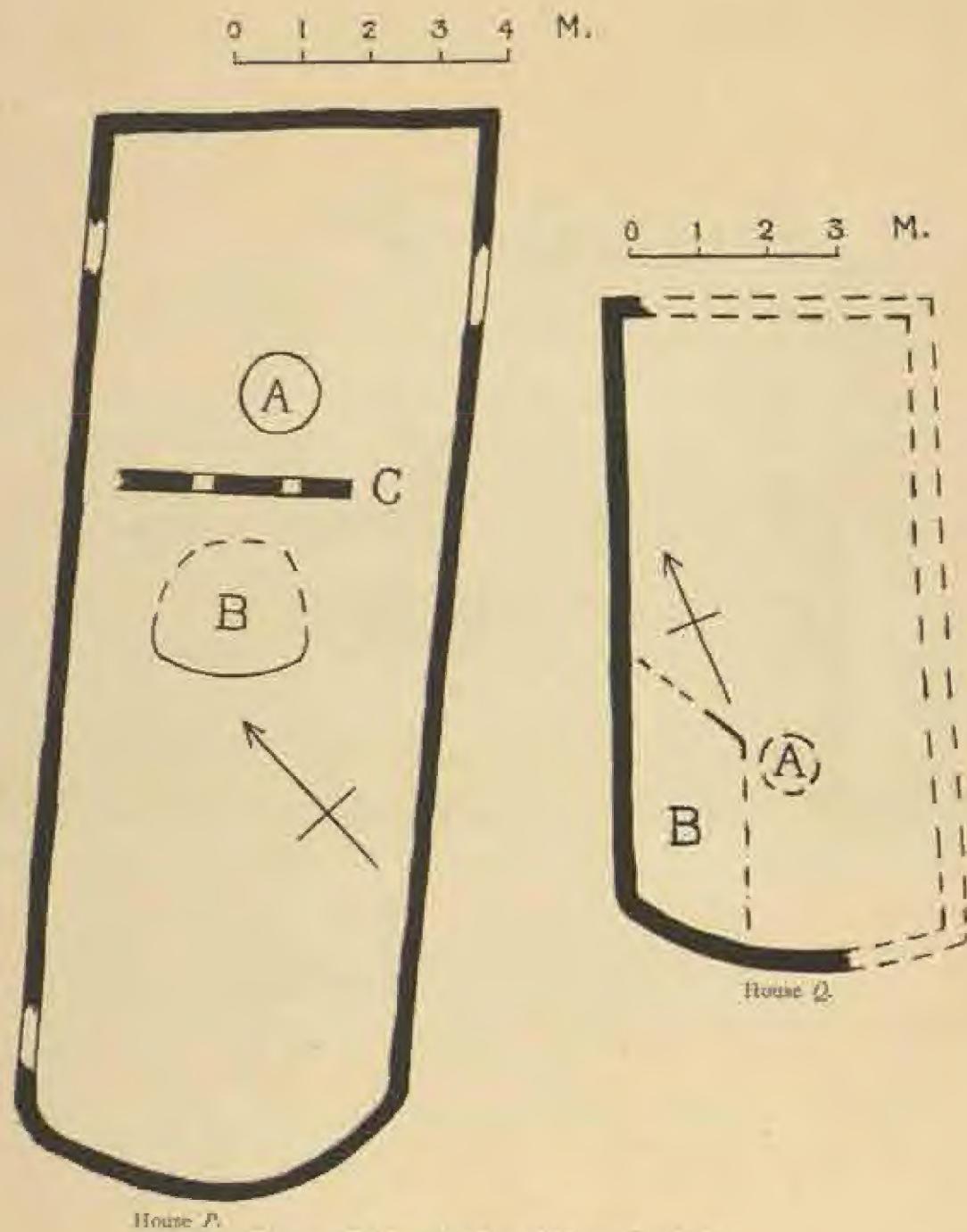
Strata	I	II	III	IV
Periods	FIRST	SECOND	THIRD	FOURTH
A <sub>1</sub>				
A <sub>2</sub>		---		
A <sub>3B</sub>		---		
A <sub>3Y</sub>		---		
A <sub>4</sub>		---		
A <sub>5a</sub> , A <sub>5B</sub>		---		
A <sub>6</sub>		---		
B <sub>1</sub>				
B <sub>2</sub>				
B <sub>3w</sub>		---	---	---
B <sub>3B</sub> , B <sub>3Y</sub>		---		
P <sub>1Y</sub>			---	---
P <sub>1B</sub>			---	---
P <sub>3</sub>			---	---
Late Minoan III				---
A <sub>1a</sub>				---

FIG. 16. Diagram to explain Stratification at Rakhmani. In this and similar diagrams (Figs. 63, 90, 102) the thick lines indicate that a ware is common, and the dotted lines that a ware is rare.

#### Architecture.

Two houses belonging to the third and fourth strata respectively and a few walls of still earlier date, which it was not possible to clear owing to the great depth of the deposit, comprise the architectural remains from this site. Both houses (see Fig. 17) are of the same general plan, but as the later one, House *P*, is better preserved and somewhat more complicated, it will be more convenient to describe it first. The walls, about 30 m. thick, seem to have been built of sun dried brick and rested on a low dry course of stones which alone survives. In three places this dry course is broken, and any one of these gaps may mark the position of the door, but on the other hand, it is quite probable that the entrance would not be marked by any break in the dry course at all. Inside the building and towards the north-eastern or straight end is a hearth or oven (*A* on plan). It is a rough circle of upright stones (Fig. 18) filled with broken potsherds, and clay, beaten and burnt into one compact mass. We found others like it in other parts of the mound, which probably mark the sites of other houses, and another 2'20 m. below House *P* in deposit of the second stratum. Similar, but semi-circular hearths were discovered at Dhimini and Sesklo, and Tsundas<sup>1</sup> suggests that they were once covered by a domed roof like the ovens used in Greece to-day. Close to the hearth was a stone foundation (*C* on plan); in it were two small holes, possibly for beams, and at either end it stops short of the side walls. This presumably carried a cross wall, but if so the gap at either end is unnatural. Perhaps the

<sup>1</sup> Δ-Σ, pp. 91, 92; cf. Fig. 19; it is not easy to imagine a domed oven inside a house so small as this; the domed ovens of Modern Greece are always out of doors.

FIG. 47. Rakhmani: plans of Houses *P* and *Q*.

narrow space between it and the west wall was similar to the two holes in the cross wall itself. The gap at the other end seems to be a doorway leading from one room to another. Close to the cross wall, and on the further side of it from the hearth, was a raised platform of beaten earth edged with stones (*B* on plan); its exact extent is not known, but it possibly extended right up to the cross wall, and may have had some connection with the curious holes in it. Near the curved end of the house was a small rectangle of stones which was probably accidental.

Before discussing the probable position of the outer door in House *P* we may pass on to the other house, House *Q*, which belongs to the Third Period. Owing to its position on the east side of the mound it has suffered more than the other; it has a very similar plan, but is on a smaller scale, and there is also a slight difference in the method of construction. The foundation is made of two layers of stones with an intervening dry course of large pot-sherds. The plan has been completed on the analogy of the later house, and



FIG. 18. Rakhmani IV : hearth in House *P*.

the conjectured restorations are indicated by dotted lines. In the corner made by the curved end and the west wall was a raised platform of beaten earth 15 m. high edged with stones (*B* on plan); and near it was a burnt patch which may indicate the hearth (*A* on plan). This, however, is uncertain, as the whole house was destroyed by fire. There was no sign at all of a partition wall. The interesting group<sup>1</sup> of vases, statuettes, millstones, figs, lentils, etc., that belongs to this house, was found towards the north end, while the other end of the house was almost devoid of finds; and as in the case of the other house no outer door could be found. The plan of both houses is so similar, and their orientation is so much the same, that it is exceedingly probable that the door in both cases was in the same general position.

In itself a straight wall seems more convenient for a doorway than a curved wall, and this applies equally to either house. The position of the hearths in House *P* suggests that the living room was towards the

<sup>1</sup> See pp. 43, 53.

square end, but if so it was the smaller of the two rooms. House *Q* is a one-roomed house, and the fact that the food and all the vases were found by the square end may indicate that this was the back of the house and used for stores. On the other hand, all the objects found were small and easily portable. The position of the platform and the conjectured hearth near the curved end in House *Q* also seems to show that the entrance was in or near the straight end, and assuming the entrance to have been in a similar position in the case of House *P* it is natural to place the hearth by the back wall of the room into which the door leads. Thus there seems to be a slight balance in favour of putting the door at the square end. This would involve a door opening to the north-east, and so subject to the cold winds for four months in winter, but in summer a northern aspect might be a considerable advantage. The modern shepherds' huts in Thessaly are always placed with the door away from the windy quarter; but this is not a true parallel, for the huts in question are only temporary winter quarters. Other early houses in Thessaly are not conclusive in their evidence. The "megara" at Dhimini and Sesklo look south or south-west, but these have porticoes. A one-roomed house at Dhimini looks north. The Lianokladhi house faces east, but the prevalent winds come down the valley from the west. One of the Tsangli houses certainly faces south, but in the others the position of the door is not known.

The Rakhmani houses may have been entered from the side; but their narrow shape as well as the position of the platforms and the hearths seems somewhat against this view. The house at Rini must be approximately contemporary with the later house at Rakhmani; it has two curved ends and a door presumably at the side, but it is proportionately much wider than the Rakhmani houses. A more perfect example of the Rakhmani type can alone decide the true position of the door. At the end of the excavation the houses were filled in again.

#### *Tombs.*

Only one was found. This was outside the north end of House *Q*, and at its north-east corner. It contained two skeletons, one with its head to the east and the other with its head to the west. By the feet of the southern skeleton lay the Mycenaean (L.M. III) vase shown in Fig. 23*e*, and on its neck were a pierced piece of blue glass paste (Fig. 26*A*) for a necklace, a steatite whorl, and two lentoid gems. Both the gems are of bad style, but it is to be noted that the better of the two (Fig. 26*K*), to judge by the worn ends of the hole bored through it, had been long in use: the other (Fig. 26*J*) from the signs of cutting and polishing still visible was quite new when put in the tomb. They and the piece of paste were probably hung round the neck of the body. If we judge by the bad style of the vase, and of the gems, this tomb may be dated to the end of the Third Late Minoan period. Unfortunately it was not possible to ascertain how the tomb was built, for it had fallen in and the stones had been disturbed by ploughing. Certainly it was not a cist tomb of slabs. Very possibly it was a small tholos tomb built of rough stones that had fallen in, for there were

quantities of stones all round and above the skeletons. Towards the northern end of the east wall of House *P* we found a large pot (p. 48; Fig. 24 *a*) in which were the bones of an infant. At a depth of 2·39 mm. below the floor of the same house, and among deposit of the Second Period, we found a somewhat similar pot (p. 29, Fig. 7 *b*), rather more primitive in shape, also containing the bones of a baby. Thus it seems that it was the system both in the Second and in the Fourth Periods to bury infants in this type of pot.

*Terra-cotta, and Stone Figurines.*

Stratum I. In this we found only two figurines. These are both the left legs of seated figures with the hands resting on the knees, like the seated male figure from Tsangli. Probably these are also male. That shown in Fig. 26 *n* is painted in the red on white style. Both are quite well made.

Stratum II. None found.

Stratum III. To this belongs the series of stone and terra-cotta figures found in House *Q*. There were four complete terra-cotta bodies and two fragments; all are shapeless and made of rough clay well mixed with straw. All have a hole in the upper part for the insertion of a head. With the bodies were five stone heads, three unpainted and two painted. Two of these, one painted and one unpainted, fit exactly into the holes in two of the bodies, see Fig. 25 *b* and *c*. One of the painted heads has red paint<sup>1</sup> (Fig. 25 *a*) and the other pale brown (Fig. 25 *b*), but both are painted in the style of the *Γιγ* ware, and thus agree with the vases found in the house. Another figurine, if it is a figurine, is better made, though equally shapeless, and has two heads, Fig. 28 *A*. There was only one other figurine from this stratum which was not found in House *Q*; this is a shapeless terra-cotta object, perhaps a head, painted white in the style of *Γιγ*, cf. the figurines from Zerelia and Rini.

Stratum IV. Several were found; most important are two terra-cotta bodies, one large and well made with rudimentary arms (Fig. 25 *d*), and the other small and badly made; both have hollows between the shoulders for the insertion of stone heads like those from House *Q*. A third, which has rude arms (Fig. 26 *n*), is similar to some figurines from Dhimini, for it had a terra-cotta head, now broken off, cf. Δ-Σ, Pls. 35. 6, 7; 36. 6. A fourth is a smaller example of the same type. Also from this stratum comes a small flat, oval stone with a waist, possibly meant for a figurine (Fig. 27 *k*, cf. Δ-Σ, Pl. 37. 5. 6), but perhaps an amulet.

Finally, the foot of a large terra-cotta figure painted in the style of *Γιγ* with white paint has been picked up on the surface of the west side of the mound, but it is not known to what stratum it belongs.

*Stone Axes and other Implements.*

Not very many were found: they may be classed as follows:

(i) Celts:

Type A, one from House *Q*. Fig. 28 *n*.

<sup>1</sup> Some of the paint has since disappeared.

Type B, triangular flat celts, small and thin, three specimens (Fig. 26 *e*), two from House *Q*, Fig. 28 *m*.

Type C, flat celts of varying length with blunt butts and broad blades, twelve specimens, the two best are '06 m. and '08 m. long, mostly from IV, Fig. 26 *a-d*.

Type E, bored celts, two fragments, both from IV.

Chisels, small, long, and narrow with pointed butts, really miniature celts of Type A, three specimens: the smallest is '03 m. long, all from I, Fig. 26 *f, g*.

There were five other fragments of celts too broken to classify.

(2) Club heads, bored, one fragment from House *P*.

(3) Oblong, rounded stone pounders or hammers, two from House *Q*, one whole and three fragments: also two bored specimens, one complete and one broken, from House *Q*, Fig. 28 *o*.

(4) Round pounders, five from House *P*, two from House *Q*, and two others.

(5) Polishers, one small from II.

(6) Grinders or rubbers, flat and oval, eight of various sizes from House *P*, two from House *Q*, and two others: also one square specimen from House *Q*.

(7) Whetstones, one doubtful example from House *Q*, it is flat and oval, with trough-like sinkings on both sides (Fig. 28 *w*): two somewhat similar, though more like mortars from House *Q*, with sinkings on one side only (Fig. 28 *l*).

In addition to these there were many saddle querns, of various shapes and sizes, all of micaceous schist, which is the common local stone. In fact the soil of the valley is full of mica, and many of the potsherds glisten with yellow particles of it, which our workmen hailed as gold, for they were inclined to believe that we were digging for precious metals.

#### *Miscellaneous Objects.*

*Bone.* Pins, thirty-three of various types from all strata.

Gouges, ten, from all strata.

Drills, four, Fig. 27 *c-e*.

Spoons, two, Fig. 27 *g*, cf. Δ-Σ, Pl. 46, 8.

Bow for drilling (?), one, Fig. 27 *f*.

Scrapers (?), two from House *Q* (Fig. 28 *p, q*), and one other, Fig. 27 *j*.

Deer horn hammers, bored, four, and three from House *Q*, also one unbored from the same house, Fig. 28 *k, j*.

Deer horn hafts, two, one is doubtful, the other is bored through to attach a shaft.

Deer horn picks, one from House *P*, of doubtful antiquity.

*Terra-cotta.* Whorls, two flat made of sherds: three double conoid: fifty conoid, and three with incised decoration on the flat side, in all fifty-three: fourteen flat, and with incised decoration, in all fifteen.

Loom weights, one oblong.

Spit supports, three from House *Q*, Fig. 19.

Sling bullets, about a hundred and fifty-eight, of which a hundred and thirty-one came from a hoard of them found in *H*.

*Stone.* Two pierced pebbles from House *P*, a pear-shaped crystal pendant with a groove round the thin end to attach a string (Fig. 27 *a*), and a fragment of a stone bracelet, cf. those from Tsangli, Fig. 78 *c, d*, p. 129.



FIG. 19. Spit supports from House *Q* at Rakhmani (scale 1:4): the spit in the photograph is modern.

*Bronze.* One drill (Fig. 27 *b*), a fragment of a pin, and a small lump, all from IV.

*Flint and Obsidian.* Many knives and chips from all strata (Fig. 27 *k-n*), also one short and two long spear heads<sup>1</sup> of flint (Fig. 27 *o-q*). One of the long flint spear heads was found in House *P* with two large flakes of obsidian.

*Mycenean objects.* Two lentoid gems from the Tomb (Fig. 26 *j, k*), and one other (Fig. 26 *l*), a steatite whorl, and a piece of blue glass paste (Fig. 26 *h*), see above, p. 40.

#### *The Contents of House Q.*

Finally, in order to give an idea of the culture of the Third Period we append an inventory of the objects found in this house, samples of which are seen in Fig. 28.

*Pottery.* three vases of class *ΠΙγ* (Pls. IV 4, V, VI, Fig. 13), and a piece of the rim of a pithos decorated with three rows of round holes, three small handleless cups (Fig. 28 *c-e*), and a cup of rough terra-cotta.

*Figurines.* one double figure of terra-cotta, four complete and two broken terra-cotta bodies, and five stone heads to insert in them (Figs. 25, 28 *g*): a long, flat stone with a waist, which is possibly a figurine (Fig. 28 *s*).

*Stone Implements.* one broken and one complete bored hammer (Fig. 28 *o*), two celts of Type B, one of Type A (Fig. 28 *m, n*), two rounded oblong

<sup>1</sup> As can be seen from the illustration these "spear heads," like all flint implements from Greece, are small.

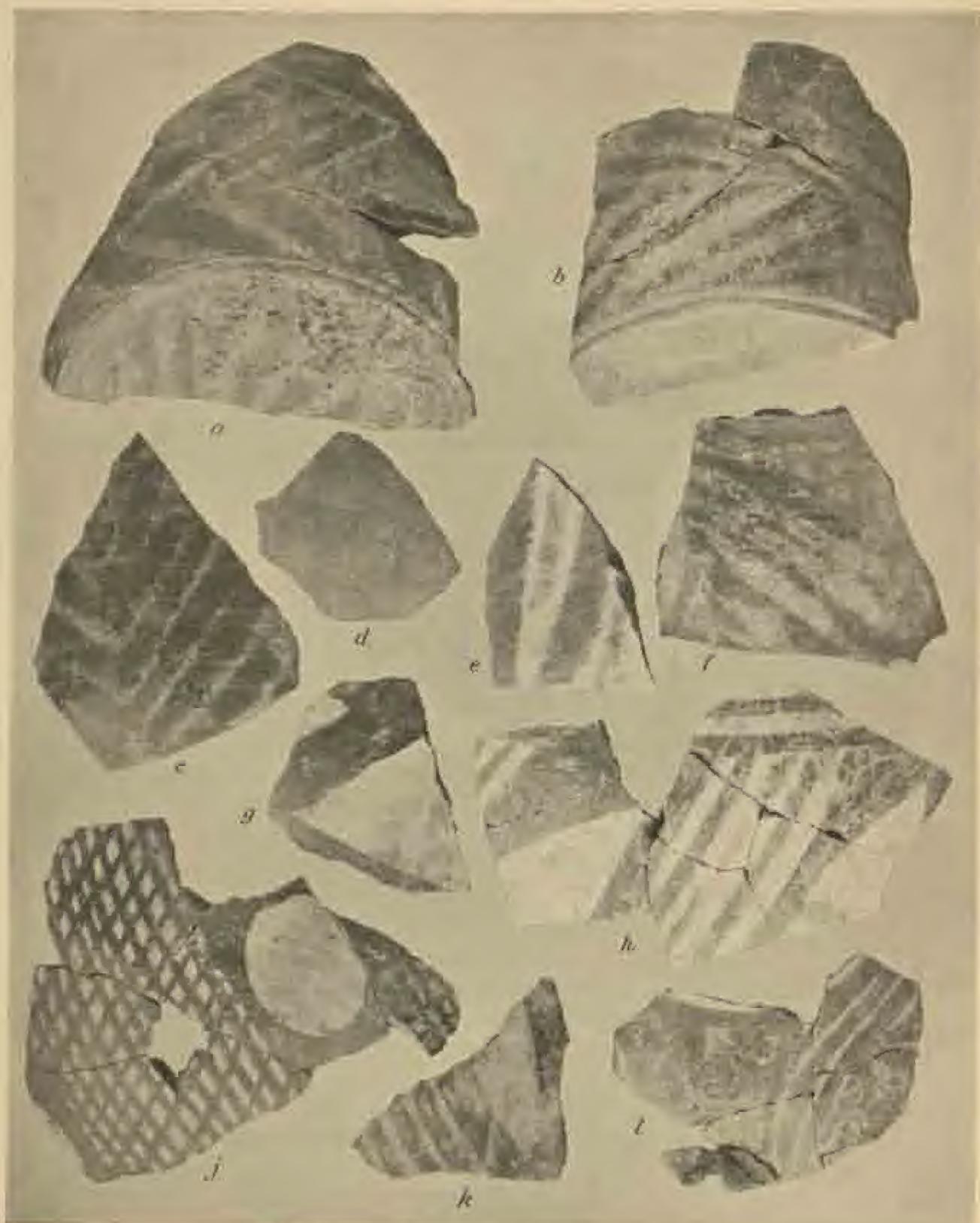


FIG. 20. Shards from Rakhmani I (a-f A31, g-l A6), (scale 2:3).

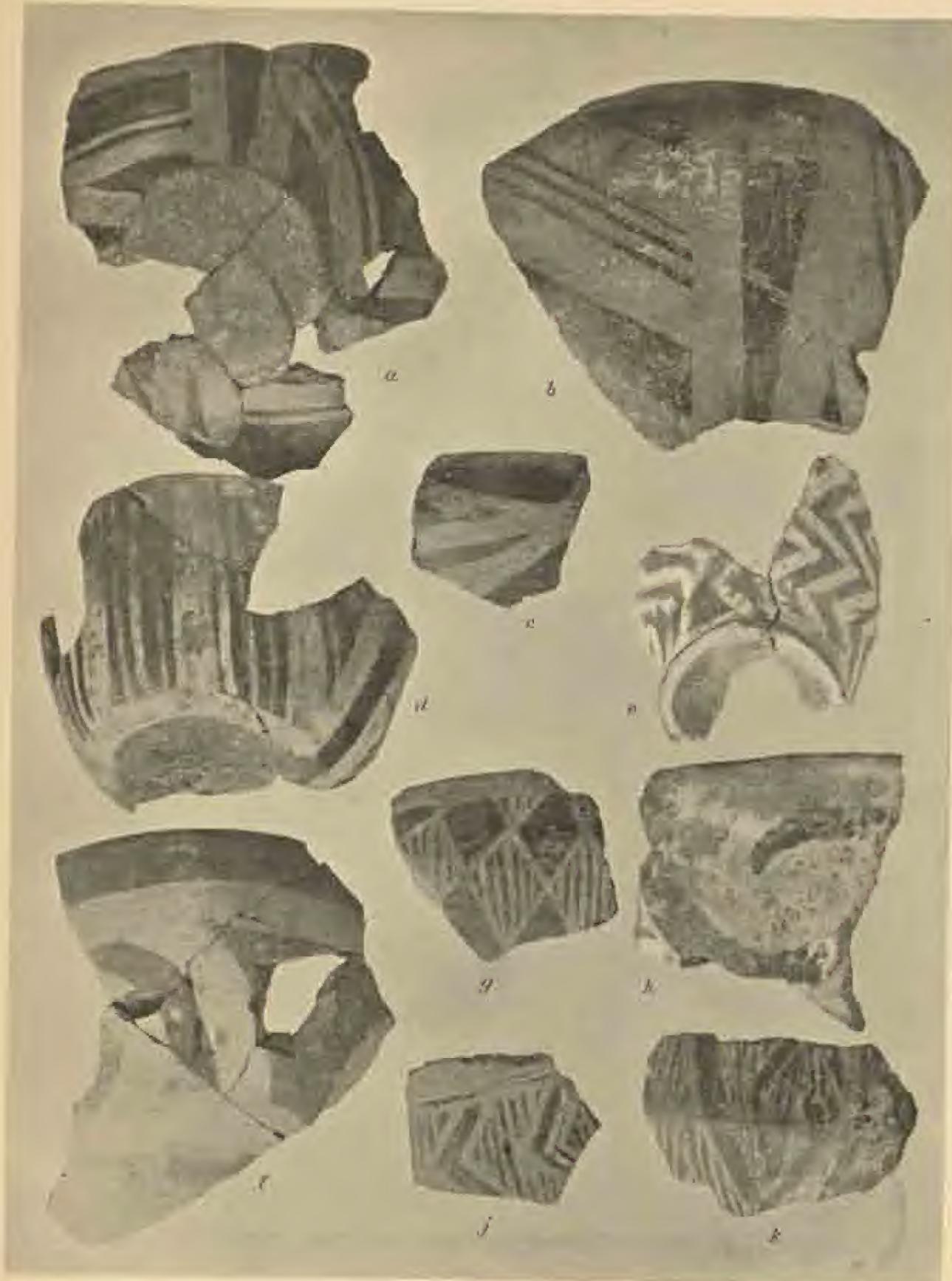


FIG. 26. Rakhmani II: sherds of B30 ware, first category (scale 2/3).

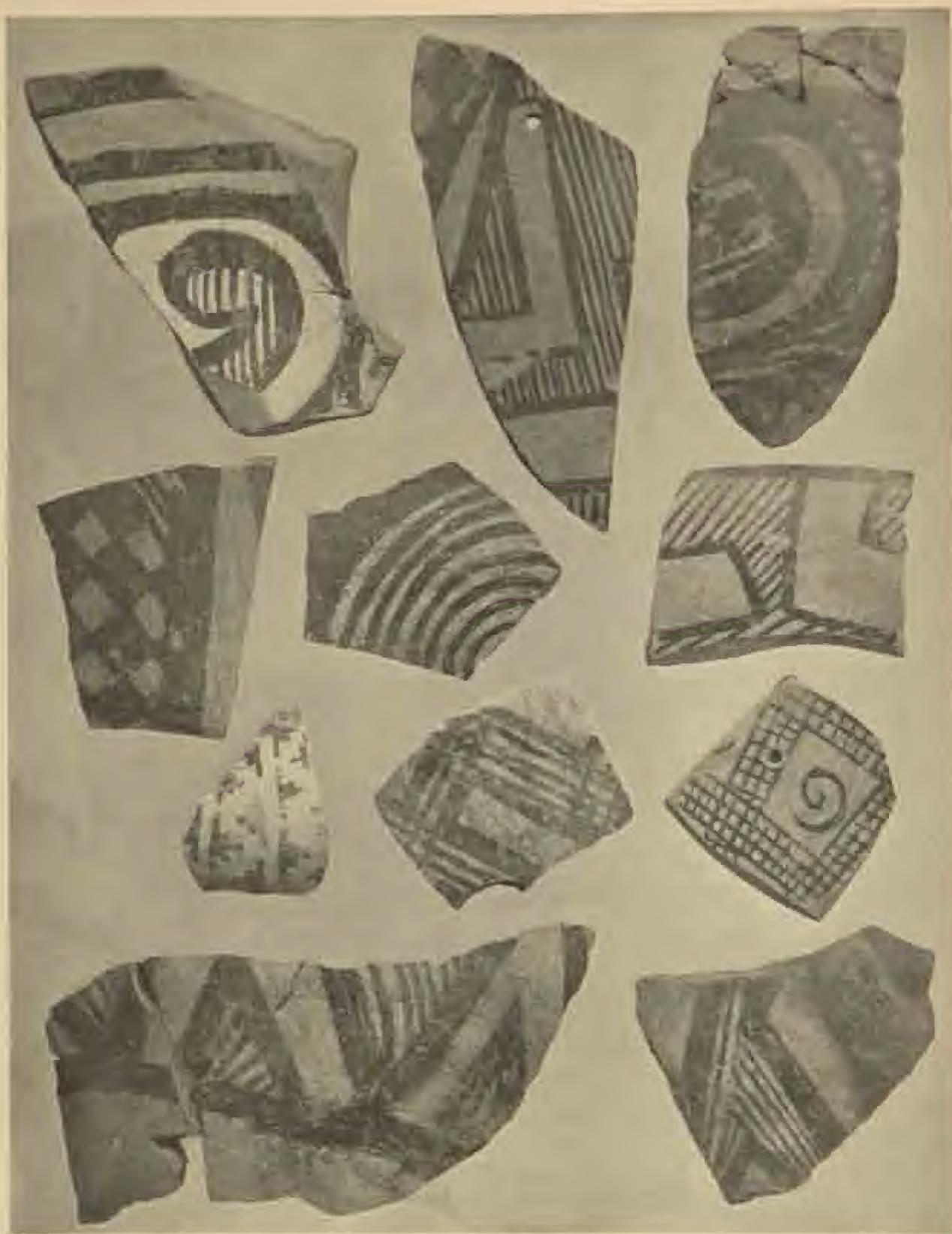


FIG. 22. Rakhmani II; sherds of Bjr. ware, second category (scale 2:3).



FIG. 72. Rakhmani IV-P3 ware (a-d, f) and Mycenaean ware (e) from tomb (scale 1:4, f 1:2).

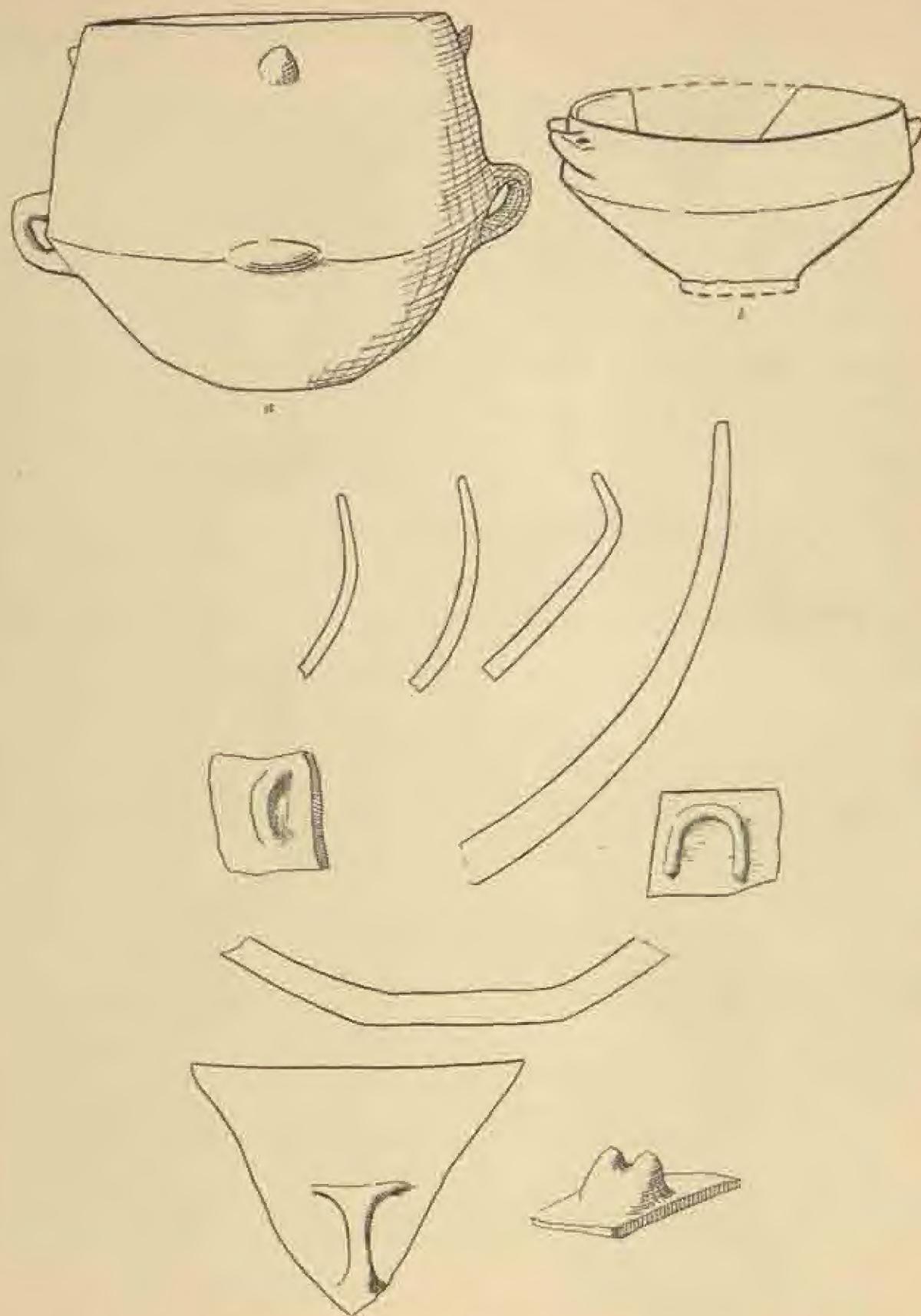


FIG. 12. Rakhmani IV; T3, pottery (scale a. 1:4, b. c. 1:2).



FIG. 25. Acrolithic figurines from Rakhmani, a-c from House Q in Stratum III,  
d from Stratum IV (scale 1:2).

W. & T.



FIG. 26. Celts, Figurines, etc., from Rakhmani (scale 9:10).

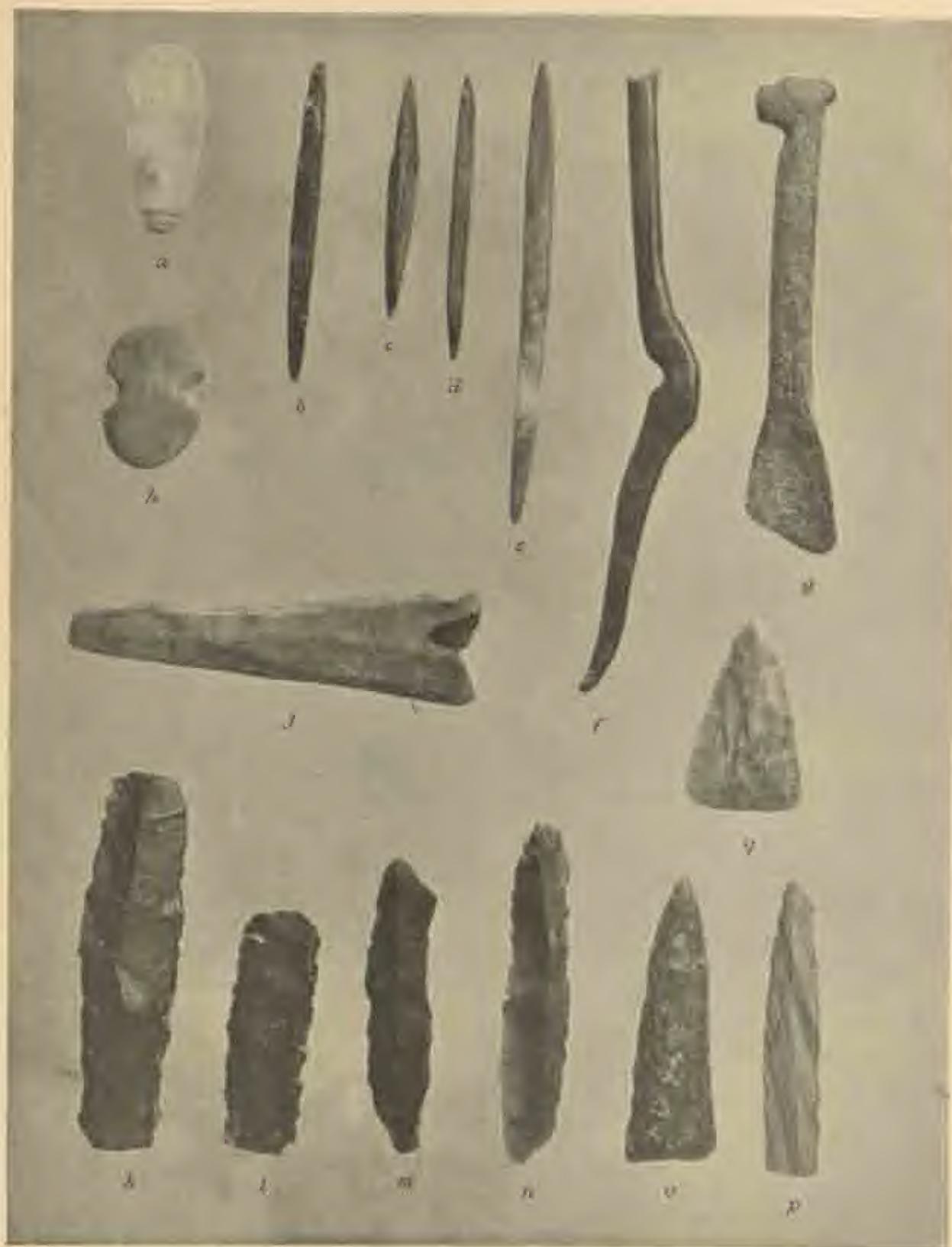


FIG. 25. Miscellaneous objects from Rakhmam (scale 9:10).

7-2



FIG. 28. Miscellaneous objects from House Q, Rakhmani III (scale 1:3).

pounders (one shows signs of an attempt to bore it), two round pounders (Fig. 28 *a*), two flat grinders or rubbers, one flat square rubber, one whetstone (Fig. 28 *w*), two stones flat on one side and with mortar-like sinkings on the other (Fig. 28 *f*), nine pebbles either for use as polishers or sling bullets, or perhaps not artefacts at all, two saddle querns, and two flint knives (Fig. 28 *x*).

Bone Implements, one plain hammer and two bored hammers of deer horn (Fig. 28 *h*, *j*), two bone pins (Fig. 28 *r*), two bone scrapers (Fig. 28 *p*, *q*), and a fragment of worked deer horn.

Miscellaneous Objects, nineteen conoid whorls (two with incised decoration on the flat side), two flat whorls, one of which has incised decoration, one double conoid whorl (Fig. 28 *f*), three odd lumps of terra-cotta, and an ox horn (Fig. 28 *a*).

There were also three large lumps of terra-cotta probably for use as spit supports: all have a hole bored through them, and two have horns on top which slope to one side to make it easier to turn the spit resting between them (Fig. 19): similar spit supports are used to-day in Thessaly.

Food, a quantity of figs (Fig. 28 *b*), peas (Fig. 28 *k*), and lentils, a little wheat, and one oyster shell.

Paint, a lump of red ochre.

#### B. MARMARIANI.

The mound of Marmariani<sup>1</sup> (p. 10, no. 74) stands about half an hour to the west of the village of that name, which lies near the reputed site of Sycurium at the foot of the south-western slopes of Ossa. In 1896 Dr Leonardihs excavated two tholos tombs here, and three years later Tsundas excavated five other tholos tombs, and finding that these were built in a mound of prehistoric deposit, made some trial pits in the mound itself. He says that his trial pits were not sunk deeper than 5:50 metres from the surface, and nowhere reached virgin soil.

The pottery found all belongs to the kind known as  $\Gamma_3$ , and the most prominent classes are  $\Gamma_3\alpha$ , two handled cups ( $\Delta-\Sigma$ , p. 259, Figs. 162, 163) which are similar to those from other sites, but have ribbed handles, and  $\Gamma_3\beta$ , bowls with raking handles ( $\Delta-\Sigma$ , p. 270, Fig. 187, p. 271, Fig. 191, p. 273, Fig. 195). Pithos fragments were also found ( $\Delta-\Sigma$ , p. 281, Fig. 221), which have the usual applied ornament. Tsundas also illustrates two whole pots from this site, a deep pot with four horizontal, rectangular lugs ( $\Delta-\Sigma$ , p. 267, Fig. 181), a small two handled jar ( $\Delta-\Sigma$ , p. 276, Fig. 205), two shovels or scoops ( $\Delta-\Sigma$ , p. 347, Figs. 283, 284), and an ornament that resembles a bunch of grapes ( $\Delta-\Sigma$ , p. 349, Fig. 289).

Miscellaneous Finds. Fourteen celts were found, six of these are long, round celts of Type A, the others are bored celts of Type E ( $\Delta-\Sigma$ , p. 319, Figs. 244, 245). There were five stone sling bullets ( $\Delta-\Sigma$ , p. 328). Other finds include a flint saw ( $\Delta-\Sigma$ , Pl. 42, 26), a barbed flint arrow head ( $\Delta-\Sigma$ , Pl. 42, 13) similar to those from Sesklo and Zerelia, which are of

<sup>1</sup>  $\Delta-\Sigma$ , p. 121.

the same general type as those from the shaft graves at Mycenae<sup>1</sup>, bone implements (Δ-Σ, Pl. 45, 15, p. 355) and hammers of red deer antlers (Δ-Σ, Pl. 47, 3, 10), which Tsundas decides were used for thrashing grain since they were found with corn and millet (Δ-Σ, p. 360). The similar finds in House Q at Rakhmani seem to indicate that this view is right.

An examination of the finds seems to show clearly that the upper strata of this mound belong to the Fourth Period (Bronze Age).

**Tombs.** Seven in all were excavated. One of them belongs to the Third Late Minoan Period (cf. the tomb at Rakhmani), and the other six contained vases of a peculiar, primitive geometric ware, Δ1a, and iron weapons. The vases are of the same type as those from Theotoku, Skyros, and Sesklo. Unfortunately, although the excavations were finished in 1899, the finds are not yet published. For further information on this geometric ware see Chapter X.

### C. ARGISSA.

The mound which is identified as the site of Argissa is called Krimnos, and lies on the left bank of the Peneus about an hour west of Larissa (p. 9, no. 30). Since the fields in the neighbourhood are strewn with potsherds of all periods, it is reasonable to suppose that this is the site of Argoura, which according to Strabo<sup>2</sup> had by his time replaced the Homeric Argissa. This possibility is confirmed by the presence of seven small, conical tumuli in the plain near by, which in all probability contain built tombs of the classical period like the Pilaf Tepe tumulus<sup>3</sup>. The prehistoric mound, which is of the high type, has been partly cut away by the river, and is thus visible in section.

Tsundas made a small trial excavation<sup>4</sup> here to test the lower strata. This produced many sherds of A3β, a few of A3γ, and many fragments of A2 (Δ-Σ, Pls. 13, 14), which so far has been found only in Northern Thessaly, i.e. here, at Rakhmani, near Drusanadhes (p. 9, no. 35), and at Mesani Maghula. Since this latter ware appears with red on white ware, A3β, there can be no doubt about its place in the Thessalian pottery sequence; it belongs to the First (Neolithic) Period. Unfortunately, none of the fragments are large enough for the shapes to be determined. The general character of this ware has been sufficiently described above (Chapter II), and till complete examples are found detailed description is worthless.

Recently an interesting terra-cotta head has been found in the lower strata at this site (Fig. 29). This has a long neck like most of the early figurines, and apparently belonged to a steatopygous female figure. It is, however, noticeable that the hair is not rendered plastically as usual, e.g. Δ-Σ, Pls. 32, 1, 33, 4, Tsani, Fig. 91d.



FIG. 29. Terra-cotta head from Argissa (scale 1:1)

<sup>1</sup> Schliemann, *Mycenae*, p. 272, Fig. 435.  
<sup>2</sup> Δ-Σ, p. 440.

<sup>3</sup> Leake, *Northern Greece*, III, p. 367; Δ-Σ,

p. 22; Edmonds, *J. H. S.* 1900, pp. 20ff.; cf. Fig.  
Δ-Σ, p. 199; pp. 27 ff.

Δ-Σ, p. 168.

Tsangli, Fig. 77g. The features, especially the nose, are smaller than in other specimens.

Apparently the settlement at this site flourished all through the four periods.

#### D. MESIANI MAGHULA.

On the left of the carriage road from Larissa to Ayia, and between the fourth and fifth kilometre stones is a tall, conical hillock known as Mesiani Maghula (Μεσιανή Μαγούλα) (p. 8, no. 26). Here Tsundas made some trial excavations, and because he found prehistoric pottery both on the hillock and on the surface of the neighbouring fields, he concluded that the conical mound was erected in prehistoric times in the centre of a prehistoric settlement as a kind of watch tower. This view appears to us mistaken. It is true that the hillock is quite unlike any other prehistoric mound in Thessaly, and that the earth of which it is built up is full of prehistoric pottery and other debris. But the hillock, from its tall, conical shape, and the smallness of its circumference, clearly falls into the class of barrows which are common in the eastern Thessalian plain. These barrows have been shown by excavations at Pilas Tepe, Velestinos, and near Larissa to be funereal tumuli<sup>1</sup>, and probably all contain a built tomb. Further the fields immediately round the base of the hillock are strewn with prehistoric pottery, and have the appearance of a low flat mound. Thus it seems to us that the hillock is a funereal barrow erected in historical times on the site, long forgotten, of a prehistoric settlement. Unfortunately Tsundas' excavations were not extensive enough to enable the duration of the settlement to be ascertained, and the building of the barrow with earth from the mound in antiquity has seriously disturbed the stratification. However, Tsundas' observations, and our own notes made during our two visits to the site give us some idea of the length of time the settlement flourished.

The various kinds of pottery found are as follows:—

A2. Tsundas figures one sherd (Δ-Σ, Pl. 13. 4), and we have found others on the site.

A3B. Tsundas does not say whether he found this ware or not, but we have seen some sherds here.

B3a. This is common.

B3y. Moderately common.

Γ1α1. Tsundas illustrates one sherd (Δ-Σ, p. 238, Fig. 133), and we have found others, one of which is noticeable for its thin fabric, and strong polishing.

Γ1α2. Tsundas figures one sherd (Δ-Σ, p. 239, Fig. 137) which may possibly belong to this class.

Γ1β. This is moderately common.

Γ1γ. A little has been found, Δ-Σ, p. 244, Pl. 12. 6.

Six terra-cotta statuettes were found, but Tsundas does not illustrate

<sup>1</sup> J. H. S. 1900, pp. 20 ff.; Βρ. Αρχ. 1905, pp. 27 ff.; Πρακτικ. 1907, pp. 153 ff.; cf. also the Macedonian barrows, Liverpool Annals, 1909, pp. 159 ff.

Έπος Παροικοῦ 1896, pp. 9 ff., Jahrbuch 1911, pp. 193 ff., and those at Kerch, Minia, Scythians and Greeks, Chap. XII.

them. One however is said ( $\Delta-\Sigma$ , pp. 294-295) to represent a seated woman with crossed legs apparently similar to the figurine from Tsangli (Fig. 71 a, p. 123). All are said to belong to the First Period.

Celts: bevelled celts of Type  $\Delta$  occur here, and amongst other objects there is a bored implement of red deer horn, possibly a club head ( $\Delta-\Sigma$ , Pl. 47, 5), which probably belongs to the Third Period, and a spherical terra-cotta sling bullet,  $\Delta-\Sigma$ , p. 344.

We thus see that at this site pottery of the First and Second Periods is comparatively common, and that a few sherds of wares that fall in the Third (Chalcolithic) Period occur. Consequently we may assume that this settlement was abandoned about the beginning of that period.

#### E. STONE HEAD FROM TOPUSLAR.

At the mound (p. 8, no. 21) by this village a stone head has been found which is illustrated by Tsundas ( $\Delta-\Sigma$ , Pl. 38, 9). In type it is similar to one from Dhimini ( $\Delta-\Sigma$ , Pl. 37, 7), but the features are plastically indicated: and consequently it is more Cycladic in appearance. But as we do not know what the body to which it belonged was like, it is impossible to decide whether it is really imported or not, and further we do not know to what period it belongs.

#### F. TERRA-COTTA STATUETTE FROM LARISSA.

The terra-cotta statuette shown in Figure 30 is in the prehistoric room of the National Museum at Athens, and we are indebted to Dr Stais for permission to publish it. It is said to have been found in Thessaly in the neighbourhood of Larissa, but the place and circumstances of its finding are unknown. It is 48 m. high, and of rather coarse, reddish clay, well baked. It is nearly perfect, for apart from the weathering of the top of the head, there are only missing the left foot, the right leg from the knee, and the phallus. The back is flat and smooth, the centre of body is hollow, but otherwise the figure is very solid. The ears and eyes were indicated, and the nose was formerly more prominent. Noticeable also is the indication of the hair on the body, though the incised lines on the neck might be considered to be a necklace rather than a beard. The most remarkable points are the large size of the figure, its bold, vigorous modelling, and its marked phallic character, in which it closely resembles the figurine from Zerelia VII (Fig. 110, p. 163). Unfortunately we are at a loss to date the figure, but judging by the strong general likeness that exists between the two it probably is to be assigned to the Fourth Period (Bronze Age) like the Zerelia figure. In short this is one of the most remarkable examples of primitive modelling yet found in Greece, for though it possesses no beauty, yet its crudeness and vigour command attention.



FIG. 30. Terra-cotta statuette from near Larissa (scale about 2:3).

## CHAPTER IV

### SOUTH-EASTERN THESSALY

#### A. SESKLO.

About an hour and a half north-west of Volos (Iolcus) amongst the hills, that border the plain on the west, in a small upland valley lies the village of Sesklo. At the lower end of this valley in the angle formed by the junction of two small torrents stands a mound (p. 8, no. 3) called Kastráki (Καστράκι). This mound was first noticed by Leake<sup>1</sup> who conjectured that it might be the ancient Aesonias; a view afterwards accepted by Lolling<sup>2</sup>, but rejected by Tsundas<sup>3</sup>. The mound, which is of the high type, stands on a natural rise projecting like a cape between the two torrents, and is about 100 metres long and 45 broad. The prehistoric deposit varies from three to six metres in depth, and was excavated by Tsundas in 1901 and 1902. Remains of all the four prehistoric Thessalian periods were found, but here as on all Thessalian sites the change from period to period is gradual. That is to say there is no sharp line between any two periods or strata as at Lianokladhi, and the different classes of pottery overlap one another. The excavator divides the deposit of the First Period into three layers, the Second into two, and the Third and Fourth (regarded by him as one period) each consist of one layer.

#### *Pottery.*

The pottery from Sesklo falls into four divisions corresponding with the four periods, into which the prehistoric remains of Thessaly can be divided. There is no necessity for us to describe it at any length here in view of the very full account given by Tsundas.

#### First (Neolithic) Period.

A.I. Monochrome red ware. Though the better specimens are red and well made, inferior examples are blackish or yellowish in colour. This variation is undoubtedly due to irregular firing, as would only be expected seeing that the vases were baked in open kilns<sup>4</sup>. The principal shapes are: (a) bell shaped mugs with vertical ribbon handles, Δ-Σ, Fig. 77, p. 164, (b) open bowls with raised bases: these are sometimes decorated with round knobs arranged in triangles, occasionally also the rims are crinkled, Δ-Σ, Figs. 72-75, pp. 162, 163, (c) wide, open dishes on high bases, the typical shape of this fine red ware, Δ-Σ, Fig. 76, p. 164. These are the three common shapes of this ware here, and the vases are as a rule

<sup>1</sup> Leake, *Northern Greece*, IV, p. 399.

<sup>2</sup> *Ath. Mitt.* 1887, pp. 103 ff.

<sup>3</sup> Δ-Σ, p. 70.

<sup>4</sup> See p. 260.

thin and well made. The only decoration, especially in the case of (c), is the addition of round knobs to the sides or the handles. The following shapes are later and more unusual:—(d) a shallow plate on a high base (Δ-Σ, Fig. 78, p. 165), this shape occurs in the painted ware of this period at Tsangli, Tsani, and Lianokladhi. (e) a tall well made vase of unknown shape, which is ornamented with applied vertical ribs, Δ-Σ, Fig. 79, p. 166: similarly decorated fragments have been found at Zerelia and Tsangli. Also to be noted are pieces of medium sized store jars with horizontal handles (Δ-Σ, Fig. 80, p. 166), spouts, and fragments of boxes on legs.

A2. Incised ware, none was found.

A3a. White on red painted ware. The biscuit is usually red, but it is sometimes grey-black or yellow-brown: it is often polished, but the white paint is always matt. Occasionally the red surface was obtained by the application of a thin red paint. Only one shape is certain, a round bodied jar with a high narrow neck and a raised base, Δ-Σ, Fig. 83, p. 175, Pl. 6, 1. The patterns are simple and linear, and are usually belts of zigzag lines.

A3β. Red on white painted ware. This is very common. When the biscuit is yellow-buff, the paint is applied directly to the surface, but when reddish, the vase is covered with a white or cream slip. The commonest shape is that which is typical of this ware, (a) a wide, open dish with a flat bottom and almost vertical sides, painted inside and out. The special form taken by this shape at Sesklo is seen in Fig. 31, cf. Δ-Σ, Fig. 84 e, p. 79: it always occurs with the typical Sesklo patterns. Other shapes are rare, but we find, (b) open bowls with raised bases, (c) narrow necked jars, Δ-Σ, Fig. 85, p. 181, also with raised bases, (d) four-sided boxes on legs, many varieties, Δ-Σ, Figs. 86-88, p. 182. The typical patterns of the Sesklo red on white ware are combinations of wavy lines, usually arranged in the form of triangles, which occasionally are solid, Δ-Σ, Figs. 91-94, pp. 184-186, Pl. 15, 1. This of course is the commonest style here, but there are also fragments of the Tsangli style, Δ-Σ, Fig. 95, p. 186, Pl. 71, 2. At Sesklo this ware is contemporaneous with both A1 and A3α, and except for the fact that the lowest strata contained hardly any painted ware there is nothing to determine their relative dates. Further, in the lowest strata, where monochrome ware, A1, predominates, it is to be noted that it is usually grey rather than red.

#### Second (Neolithic) Period.

B1. Monochrome ware. This as remarked above, is an unimportant class, and when found by itself cannot be distinguished from the plain ware of the succeeding period, P3. A notable shape is (a) a shallow bowl narrowing rapidly to a flat base (cf. Fig. 7 a, p. 29) which resembles the typical shape of B3a, Fig. Δ-Σ, Fig. 106, p. 197. Other shapes are (b) a narrow necked bowl with small vertical handle on the rim, Δ-Σ, Fig. 107, p. 197, (c) small vases with a loop handle on the rim, Δ-Σ, Fig. 104, p. 197; and (d) ladles



FIG. 31. Profile of typical shape of A3β at Sesklo.

with long handles, sometimes of a phallic shape, Δ-Σ, Figs. 101-103, p. 196.

With this pottery can be classed the pithoi, or store jars. One complete specimen was found: this is tall ('90 m.) and wide, narrowing in at top and bottom. Just above the widest part are four vertical handles, two with small horns on top, and two with small cups. On the rim are four knobs, one above each handle, and by them above the cupped handles are applied ribs of clay in the shape of an  $\omega$ . The applied ornament on this and other fragments is either pinched in with the fingers, or slashed across. Sometimes the ornament is spiral, Δ-Σ, Fig. 124, p. 230, and sometimes is in the form of simple knobs, Δ-Σ, Fig. 118, p. 212. Most of these applied patterns suggest ropework.

B2. Incised ware. The biscuit is usually grey, occasionally red-brown, and rarely red. The patterns are all linear, and made by combining long and short, curved and straight lines. The use of dots and semicircles is rare, e.g. Δ-Σ, Fig. 116, p. 202. This ware seems to have been commoner at Dhimini than at this site<sup>1</sup>. The fragments are small, and the shapes are hard to determine. There are two complete vases, (a) a kind of scoop on a stand with a branching handle on top, Δ-Σ, Pl. 16, 3, (b) a bowl with fairly straight sides, and turning in abruptly below the handles (of a vertical ribbon type) to a small flat base. But a good many pieces seem to belong to shallow bowls narrowing to a flattened base, with lugs (Δ-Σ, Fig. 112, p. 201), or small ribbon handles on the shoulder, and occasionally without handles. The patterns, usually a combination of geometric and spiral elements, are often arranged in panels.

B3a. Dhimini ware, which at this site is the characteristic ware of this period. All three categories are common<sup>2</sup>; the principal shapes are: (a) shallow open bowls (Fig. 36, p. 76), painted inside and out, often with projecting knobs on or just below the rim, which are sometimes bored for string holes, and sometimes developed into animal or human heads, (b) "fruitstands," bowls of the same general type as (a) set on tall, tapering stems, (c) two-handled jugs with wide, rounded bodies sloping in gradually to neck and base; there are two small vertical handles on the shoulder, and the neck is often not sharply divided from the body, Δ-Σ, Fig. 118, p. 215, (d) small mugs with vertical string holes, often in pairs, Δ-Σ, Pl. 21, 3. As usual the first shape (a) is by far the commonest, and the patterns show the usual peculiar combinations of geometric and spiral elements. It is to be noted that the string holes are often in pairs: occasionally also fragments are found with holes bored along the edges, these are from vases broken and mended in antiquity.

B3β. Three-colour ware: the patterns are in black and white on a red ground, or in black and red on a white ground. The permanent feature is that the black is always a secondary colour used to outline white or red designs. This ware is fairly common, Δ-Σ, Pls. 8, 3-5; 10, and has three principal shapes: (a) fruitstands, Δ-Σ, Pl. 30, 1, 2, (b) rectangular bases

<sup>1</sup> The only examples from Sesklo illustrated by Taundas are Δ-Σ, Figs. 112, 113, 116, 120, Pls. 16, 3, 17, 3, 18, 10.

<sup>2</sup> See Δ-Σ, Pls. 20, 2, 3; 21, 2, 3; 23-4, 5, 6; 24, 5, 6, 7, 8, 9; 25, 2, 6; 27, 2, 3, 4, 5, 7; 28, 1, 3, 6; 29, 1, 3, 4, 5, 8.

narrowing to the top; these are hollow when large and solid when small: in two of the sides at the top, opposite one another, there is a small groove, the other two sides are crowned by a row of decorative knobs: in the sides which are grooved on top there are diamond shaped holes, occasionally also present on the other sides: as conjectured by Tsundas these objects were probably meant to hold a spit to roast or grill meat on, like the somewhat similar objects from House *Q* at Rakhmani: there is no reason to connect them as Tsundas does with religious customs, for they were probably merely for household purposes. The patterns of this ware in general resemble those of B3a.

B37. Three colour ware: none was found.

G18. None was found.

### Third (Chalcolithic) Period.

G141, G142, G143. None was found.

G17. Crusted ware: only one sherd was found.

G18. Crusted ware: a little was found. This, as explained above, is really one variety of the second category of G17. All the pieces come from shallow, wide dishes with thick rims, and are painted only on the inside. The paint is thick and hard, and only white is used. The patterns combine both geometric and spiral designs,  $\Delta$ - $\Sigma$ , Figs. 148, 149, p. 247.

G2. Incised ware. No typical fragment of this ware was found here, but Tsundas illustrates ( $\Delta$ - $\Sigma$ , Fig. 151, p. 250) a coarse fragment with rude incisions that might perhaps be included in this class, and another ( $\Delta$ - $\Sigma$ , Fig. 152, p. 251) which he assigns to this period because its incisions recall sherds from Eleusis. In that case it seems more likely that it is contemporary with Minyan ware, and should rather be assigned to the Fourth than to the Third Period.

With this we come to the end of the wares that are typical of the Third Period. Examples of G3, though they may belong both to the Third and to the Fourth Periods, are best treated under one head. We have therefore discussed them under the Fourth Period.

### Fourth Period (Bronze Age).

G16. See Mattmalerei below, p. 62.

G3. Monochrome ware, hand-made. The biscuit varies from red or brown to grey-black according to the firing. Polished and unpolished specimens occur. At Sesklo the following shapes were found:

G3a. Two-handled cups,  $\Delta$ - $\Sigma$ , Figs. 161, 164, pp. 259 ff. Other examples were found in Tombs 11, 22, 29, 55, 56.

G3b. Shallow two-handled bowls with long, raking handles,  $\Delta$ - $\Sigma$ , Figs. 189, 190, 192-195, pp. 271 ff.

G3c. High wide bowls with small vertical handles with a long attachment against the side of the vase below,  $\Delta$ - $\Sigma$ , Fig. 212, p. 279: it is not clear whether this shape was found at Sesklo.

G3d. Shallow, wide bowls with horizontal suspension holes just below the rim,  $\Delta$ - $\Sigma$ , Fig. 210, p. 278.

G3e. Narrow-necked bowls with ribbed bodies,  $\Delta$ - $\Sigma$ , Fig. 211, p. 278.

G3f. Small one-handled cups,  $\Delta$ - $\Sigma$ , Figs. 203, 209, pp. 276, 278.

G3g. Small ladles or dippers with a triangular loop handle on the rim, apparently one specimen,  $\Delta$ - $\Sigma$ , Fig. 138, p. 270.

Amongst peculiar shapes we may note a strainer in the form of a one-handled jug, Δ-Σ, Fig. 198, p. 274. A common type of handle is in the form of a rectangular horizontal lug, sometimes pierced and sometimes with two small horns, Δ-Σ, Figs. 183, 186, pp. 268 ff. Knobs of various forms, sometimes plain to serve as decoration and at other times bored for use as string holes, are common, Δ-Σ, Fig. 171, p. 263.

These are the shapes recorded by Tsundas. Probably research amongst the quantities of plain potsherds from this site in the National Museum at Athens with the aid of the evidence from later excavations would reveal other shapes.

Pithoi. Large store jars decorated with raised belts of applied clay, either pinched in with the fingers or slashed across, were in common use in these two periods, and many fragments were found. The form taken by the ornament varies, but as a rule it suggests ropework, Δ-Σ, Figs. 220, 222, pp. 281 ff. One almost spherical jar has horizontal tubular handles at the widest part of the body, and above them the decoration is in wavy lines reaching up to the neck, Δ-Σ, Fig. 222, p. 282.

Δ2a. Two probable specimens of this were found in Tombs 17 and 47.

Mattmalerei. Ware of a yellow-buff colour with geometric patterns in matt black paint. A few sherds were found, and one specimen of a jar with a loop handle on the rim was found in Tomb 9. Four other examples of the same shape, but undecorated, were found in Tombs 33, 35, 40 and 51, and they may be ranged with this ware. This ware is classed by Tsundas as Γ1ε, and called Pre-Mycenean. It is occasionally wheel made, and seems to be parallel with Minyan, since it occurs in the cist tombs: it is thus analogous to the Mattmalerei ware of the south, see Chapters IX, XII and XIV.

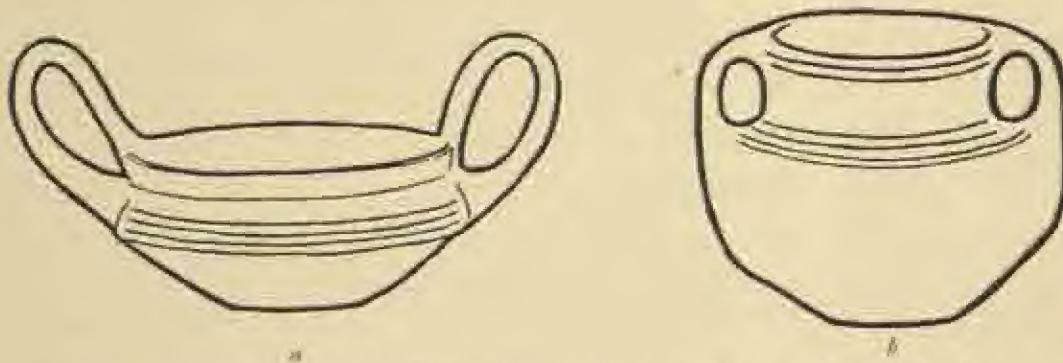


FIG. 32. Minyan vases from cist tombs at Sesklo, a (scale 5:5) from Tomb 36, b (scale 1:2) from Tomb 13.

Minyan Ware. A fair amount was found in the tombs. A good example of the typical shape, a goblet with a ringed foot, comes in Tomb 28; three specimens of another common shape, a cup with two handles standing high above the rim (Fig. 32 a), were found in Tombs 10, 32 and 36; five examples of another shape, a jug with horizontal flutings and two small handles just under the rim (Fig. 32 b), were found in Tombs 13, 25, 36, 44 and 56; and a pyxis and a kyathos come from Tombs 7 and 53.

## Architecture.

Although all the architectural remains are shown on the plan, Fig. 33, only the more important and more complete buildings are described in the following account, and the large number of inorganic and fragmentary walls are omitted.

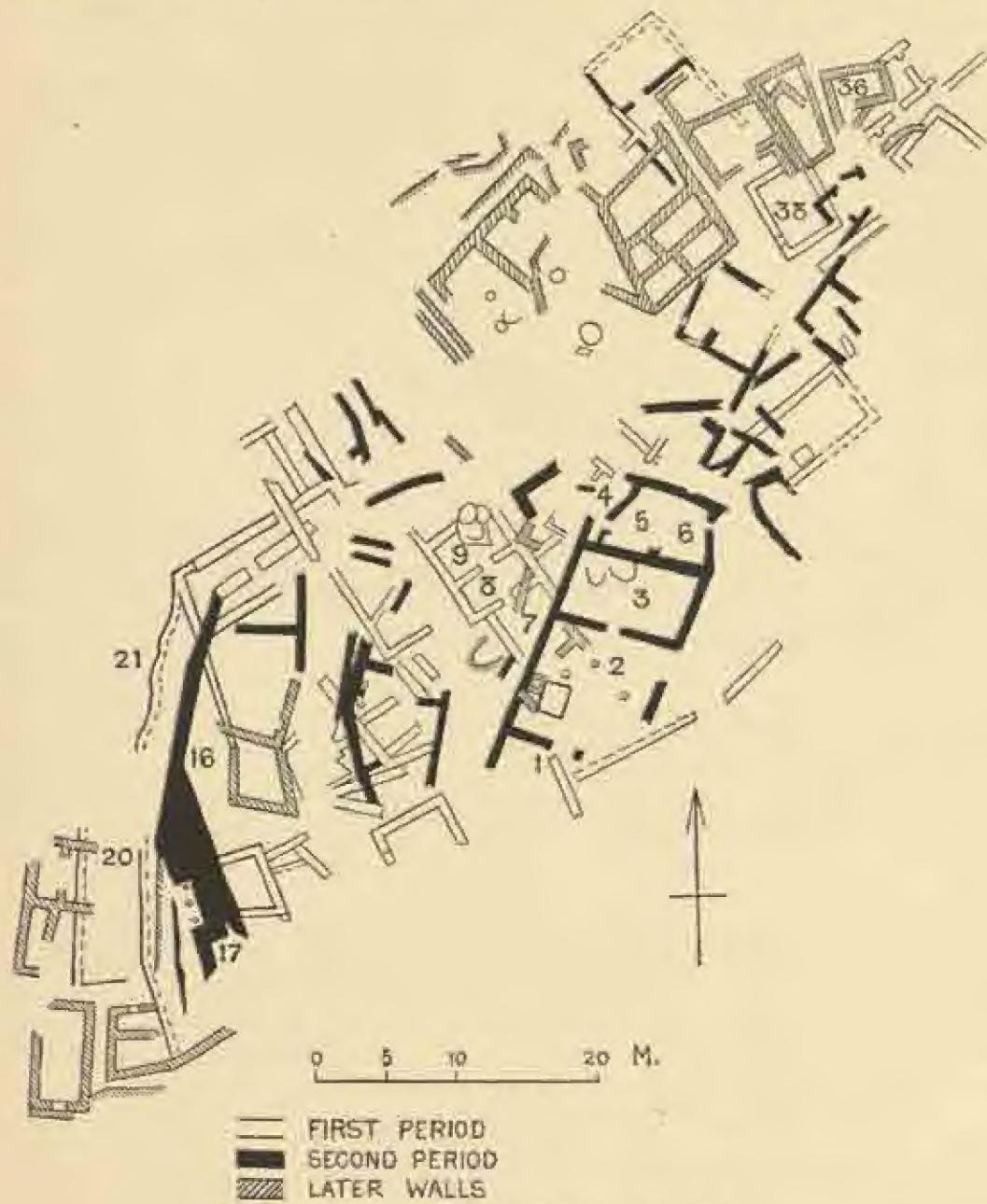


FIG. 33. Sesklo; plan after Tsundas, 4-2, Pl. 3.

Fortunately the deficiencies in the architectural evidence from Sesklo can be rectified to a great extent by a study of the remains at Dhimini.

## First Period.

**Fortifications.** At the eastern end of the site are the remains of walls, built of stones set in mud and thicker than ordinary house walls (20, 21 on Plan), which Tsundas conjectures to have been fortifications analogous to the later ring walls at Dhimini, Δ-Σ, pp. 75, 76. This, though probable, cannot be proved, as the evidence is insufficient.

**Houses.** Two different methods of construction can be noticed, both of which continued in use side by side throughout the succeeding periods.

(A) Wattle and Daub on a wooden frame work. Numerous fragments of clay still showing the impressions of wooden poles and reeds were found and from a study of these remains Tsundas has come to the conclusion that the roof was sloped and perhaps of a gabled type, Δ-Σ, pp. 79 ff., Figs. 13-17. Apparently this type of house stood directly upon the ground without any stone foundations. In Sesklo itself there is only evidence for simple rectangular plans, but close by are circular hut foundations, p. 74, and round wattle huts like those still used by shepherds in the Thessalian plains were probably in vogue in all periods.

(B) Stone Houses. These were built of stones laid in clay or mud, and, perhaps, judging from the remains at other sites had a superstructure of wattle and daub. On this point Tsundas makes no definite pronouncement and he seems to consider that the stonework was carried up to the roof. The walls it is true are often unusually strong, being frequently 50 m. thick, but nevertheless some of the wattle and daub fragments may belong to this class. The inner faces of the walls were at times smeared over with mud; no wooden beams were found inserted in these walls, nor in the fortification walls; the floors were in some cases roughly paved with cobbles and in others made of beaten earth. The plans of the stone built houses are also rectangular, but only a few are well preserved. The most important are a one roomed broad fronted house with the door by the end of the wall (58 on Plan), a house only partially preserved with a small porch, Δ-Σ, p. 84, and a two or three roomed building (7, 8 and 9 on Plan), which was rebuilt and enlarged during the first period. It is just possible that this building also had a small porch, Δ-Σ, p. 86.

## Second Period.

The methods of construction are the same as in the First Period; rectangular types of houses still prevail and there is no sign of any innovation which cannot be explained by natural development. As before there is evidence for fortifications in a thick wall at the east end of the site (17 and 16 on Plan) but the precise form again cannot be determined with certainty, though it is extremely probable it resembled the ring walls of Dhimini.

**Houses.** Only one house is really important, a large building of the Megaron type (1, 2, 3, 4, 5, 6 on Plan) which, according to Tsundas, comes at the very beginning of the Second Period, Δ-Σ, p. 88. A separate plan of this building, taken from Tsundas, Δ-Σ, p. 89, Fig. 18, is given in Fig. 34, where it will be seen how much of the restored plan is conjectural. The two wooden columns in the shallow porch 2.50 m. deep are inferred from a similar building at Dhimini; from this porch, which is not paved, a doorway 1.42 m.

wide leads into the main room the floor of which is a layer of reddish clay resting on a bed of small stones. This room is approximately square, measuring  $8.25 \times 8.50$  metres, and the walls, which stand to a height of 1.30 m., are 60 m. thick. The bases of three wooden posts presumably to support the roof were discovered, and to the left of the door on entering was an oblong hearth standing free from the wall. The back room, which is entered by a door 90 m. in width, contains two raised earthen platforms near the back wall. These are semicircular in shape and are edged with upright slabs. The earth in the centre is mixed with straw or potsherds and beaten hard. These platforms seem to have been a kind of oven or hearth, and similar examples were found at Dhimini, p. 81, Δ-Σ, p. 52, and at Rakhmani, p. 37. Tsundas suggests that the rooms 4, 5 and 6, which, taken together, form a building of a somewhat similar type, are a later addition made for the benefit of the eldest married son of the owner of the main building, which before it was thus enlarged had a porch at either end. To support the view that the original house had two porches, he refers to another building at Sesklo, which he conjecturally restores, Δ-Σ, p. 99, Fig. 22, but his restored plan differs so much from the unrestored, that it is impossible to estimate what this argument is worth. The doors of the smaller "Megaron" (4, 5, 6 on Plan) were swung on pivots resting in hollowed stone bases, Δ-Σ, p. 94, Fig. 20.

Several other hearths or ovens were found similar to those in the Megaron but circular in shape, and because house remains were not always found near them Tsundas infers that a number of wooden or wattle and daub buildings have completely disappeared. This however is not a necessary inference for ovens are frequently out of doors. In an interesting note on ovens, Δ-Σ, p. 106, note 1, Tsundas draws an apt illustration from the Sarakatsāni (*Σαρακατσάνι*) of Thessaly, who live in wattle huts and have two hearths, one in the middle for a fire and one at the side for glowing embers.

### Third and Fourth Periods.

The remains of these two periods are unimportant. The house plans are all rectangular; one however if perfect (36 on Plan) is interesting as showing the survival of an early type. The occasional use of mud brick marks a new development in method of construction.

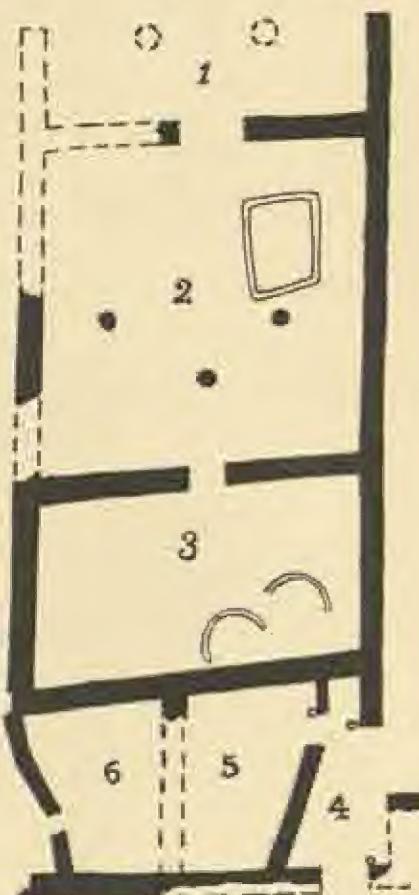


FIG. 34. Sesklo; plan of Megaron after Tsundas (scale 1:200).

## Tombs.

During the excavation no less than one hundred and sixty tombs were found, 138 amongst the remains of the settlements, four at the foot of the mound, six by the neolithic hut foundations, and twelve near the huts of the Third Period<sup>1</sup>. The tombs, with the exception of three which were pithos burials, are all cist graves, as a rule about 1.50 m. long, and built with four slabs at the sides and roofed with a fifth, like the Zerelia tombs (Fig. 108 *c*). Twelve however were built with small slabs, and eight with walls of unbaked brick. The skeletons as a rule lay on their left sides in a contracted attitude, and though the majority of the tombs contained only one skeleton, in some two, three, or even four were found. There were no signs of any burning of the bodies. In many of the tombs nothing was found beyond the skeleton. The following is a list of the principal tombs and their contents.

Tomb 7. The body lay on the right side. By it were a wheel-made pyxis (with a lid) of Minyan ware decorated with an incised wavy line between horizontal flutings, a terra-cotta spool bored longitudinally, and on the neck were two small rings of bronze covered with gold leaf, cf. Dhiunini, Tomb 6*t*.

Tomb 9. This contained a hand-made vase of Mattmalerei ware with a loop handle on the rim. The pattern, which is on a cream surface, consists of crossed lines in red-brown,  $\Delta-\Sigma$ , Fig. 33, p. 133.

Tomb 10. This was of unbaked brick, and all the inside was smeared with whitish clay. The body lay on its right side. It contained a wheel-made cup of Minyan ware with handles rising high above the rim (Fig. 32 *a*),  $\Delta-\Sigma$ , Fig. 34, p. 134, cf. a vase from Zerelia, Fig. 103 *d*.

Tomb 11. In this was a small two-handled, hand-made cup,  $\Delta-\Sigma$ , Fig. 35, p. 134, which is probably to be classed as  $\Gamma 3a$ .

Tomb 13. This contained a small Minyan jar, with flutings round the top of the body and two small handles just below the rim (Fig. 32 *b*),  $\Delta-\Sigma$ , Fig. 36, p. 135.

Tomb 17. In this was a hand-made jug with a slight beak,  $\Delta-\Sigma$ , Fig. 37, p. 135, and a bronze dagger (1.17 m. long), which has a broad, flat blade and no socket or haft,  $\Delta-\Sigma$ , Pl. 4, 11.

Tomb 22. In this were a small bronze knife with a narrow, tapering blade,  $\Delta-\Sigma$ , Pl. 4, 9, and a hand-made two-handled cup ( $\Gamma 3a$ ),  $\Delta-\Sigma$ , Fig. 38, p. 136: the handles have raised edges, and on one side of the vase is a low, round knob.

Tomb 25. This was the largest tomb, and two metres long. It contained three skeletons, one on the north side, one on the south, and a third, that of a child, on the east. Near the head of the southern skeleton were three small rings of gold wire, probably from the hair,  $\Delta-\Sigma$ , Pl. 5, 1, a steatite ring,  $\Delta-\Sigma$ , Pl. 5, 15, a small bead of sard,  $\Delta-\Sigma$ , Pl. 5, 3, a terra-cotta conical whorl,  $\Delta-\Sigma$ , Pl. 5, 17, and two semicircular pieces of gold leaf, possibly coverings for buttons. Lower down were eighteen tubular bronze beads (0.06-0.105 m. long) decorated with embossed knobs either parallel or at right angles to the axis of the beads, which were made by bending together thin bronze plates,  $\Delta-\Sigma$ , Pl. 5, 6, 7. With these were eight solid bronze beads,  $\Delta-\Sigma$ , Pl. 5, 14, eleven paste beads,

four of which are tubular,  $\Delta-\Sigma$ , Pl. 5, 9-12. As suggested by Tsundas, these beads probably hung on the chest in two or three rows with tubular and small beads arranged alternately,  $\Delta-\Sigma$ , Pl. 5, 3, 4, 5. By the other skeleton were a bronze dagger similar to that from Tomb 17,  $\Delta-\Sigma$ , Pl. 5, 16, a bronze knife like that in Tomb 22,  $\Delta-\Sigma$ , Pl. 4, 13, a wavy strip of bronze plate,  $\Delta-\Sigma$ , Pl. 5, 8, and a Minyan vase like that from Tomb 13 (Fig. 32 *b*),  $\Delta-\Sigma$ , Fig. 39, p. 138.

Tomb 28. In this, by the skull, were four rings of silver wire and two of bronze,  $\Delta-\Sigma$ , Pl. 4, 6, ten small spherical and one round sard beads, and one spherical bead of grey stone, and behind the head a Minyan goblet with a ringed foot,  $\Delta-\Sigma$ , Fig. 40, p. 139.

Tomb 29. In this were a two-handled cup ( $\Gamma_{3a}$ ), like that from Tomb 11, a two-handled stamnos,  $\Delta-\Sigma$ , Fig. 41, p. 140, and a small bronze chisel, 08 m. long,  $\Delta-\Sigma$ , Pl. 4, 12.

Tomb 32. This was built of mud brick and contained a Minyan cup, like that from Tomb 10, with two handles rising high above the rim (Fig. 32 *a*),  $\Delta-\Sigma$ , Fig. 42, p. 140, and a pair of bronze tweezers,  $\Delta-\Sigma$ , Pl. 4, 2.

Tomb 33. In this was a small hand-made cup with a loop handle on the rim,  $\Delta-\Sigma$ , Fig. 43, p. 141.

Tomb 35. In this was a small, shallow cup with a loop handle with two bored projections on either side,  $\Delta-\Sigma$ , Fig. 44, p. 141.

Tomb 36. In this were two skeletons, a Minyan cup with handles rising high above the rim (Fig. 32 *a*),  $\Delta-\Sigma$ , Fig. 45, p. 141, another Minyan vase, like those from Tombs 13 and 25 (Fig. 32 *b*), and two terra-cotta whorls.

Tomb 37. This also contained two skeletons, one of which lay face downwards. By them were two vases, a hand-made stamnos, like that from Tomb 29,  $\Delta-\Sigma$ , Fig. 46, p. 142, and a small hand-made skyphos.

Tomb 38. In this were three skeletons, one of which lay on its right side. By the head of this skeleton was a ring of bronze wire, on its hand a steatite ring,  $\Delta-\Sigma$ , Pl. 4, 7, and at its feet a wheel-made cup decorated with incised lines running obliquely downwards from the top, and with two holes bored opposite one another in the lip,  $\Delta-\Sigma$ , Fig. 46, p. 142. There were also two conical whorls.

Tomb 40. This contained a pair of bronze tweezers,  $\Delta-\Sigma$ , Pl. 4, 1, a ring of bronze wire, and a small vase with a loop handle on the rim,  $\Delta-\Sigma$ , Fig. 47, p. 142.

Tomb 41. This contained three rings of silver wire, a terra-cotta whorl and a hand-made two-handled cup ( $\Gamma_{3a}$ ),  $\Delta-\Sigma$ , Fig. 48, p. 143.

Tomb 43. In this were ten cylindrical beads of semi-transparent white stone, several small tubular paste beads and a one-handled hand-made mug with a knob on the side opposite the handle,  $\Delta-\Sigma$ , Fig. 49, p. 143.

Tomb 44. In this was a vase of a Minyan shape,  $\Delta-\Sigma$ , Fig. 50, p. 144, like those from Tombs 13, 25 and 36 (Fig. 32 *b*), but apparently hand-made. It may be a local imitation of Minyan ware.

Tomb 47. This tomb was found at a depth of 2:50 mm. and is therefore apparently the earliest. The floor was strewn with gravel. In it was a hand-made and polished beaked jug with the back of the neck cut away by the handle,  $\Delta-\Sigma$ , Fig. 51, p. 144.

Tomb 50. In this were a bronze knife,  $\Delta-\Sigma$ , Pl. 4, 14, and a much damaged small skyphos shaped vase.

Tomb 51. This was of unbaked brick, and contained a small hand-made vase with a loop handle on the rim,  $\Delta-\Sigma$ , Fig. 52, p. 145: it is similar to the vase from Tomb 40.

Tomb 53. In this were four skeletons: it contained a small, hand-made, handleless, spherical vase ('084 m. high), a small kyathos of Minyan ware, a ring of bronze wire, a terra-cotta whorl, and a bored terra-cotta spool, like that in Tomb 7.

Tomb 55. In this were a conical terra-cotta whorl, a hand-made jug,  $\Delta-\Sigma$ , Fig. 54, p. 146, and a two-handled cup ( $\Gamma\beta\alpha$ ),  $\Delta-\Sigma$ , Fig. 53, p. 145, covered inside and out with a reddish slip, hand-made and polished.

Tomb 56. This contained a Minyan vase, like those in Tombs 13, 25, 36 and 44 (Fig. 32 δ), a two-handled cup ( $\Gamma\beta\alpha$ ),  $\Delta-\Sigma$ , Fig. 55, p. 147, and a bronze spear head,  $\Delta-\Sigma$ , Pl. 4, 10, similar to one from the fourth shaft grave at Mycenae<sup>1</sup> and another from Leukas<sup>2</sup>.

In addition to these cist tombs Tsundas found several tholos tombs. One of these contained L. M. III vases, and the others primitive geometric vases, like those from Marmariani. Unfortunately he has not yet published them<sup>3</sup>.

#### Figurines of Terra-cotta and Stone.

*Terra-cotta.* Forty-six figurines of this material were found, but unfortunately all are more or less broken. The great majority are female, only two are male, and two animal. The female statuettes may be divided into three main types. The first two types belong to the First and Second Periods, and the third occurs in the Third and Fourth Periods.

Standing steatopygous figures (cf. Fig. 35). To this class the earliest and best figures,  $\Delta-\Sigma$ , Pls. 32, 1, 3; 33, 3, belong. Several others are also illustrated by Tsundas,  $\Delta-\Sigma$ , Pls. 32, 3, 4-6; 33, 1. The most noticeable point about this class is the steatopygy, the thighs and the whole of the lower part of the body are represented as excessively fat. Other points to note are the length of the necks, and the position of the hands on or just below the breasts.

Seated figurines. These, like the first class, belong in the main to the First (Neolithic) Period, though they may not occur quite as early as the others. One of these seated figures ( $\Delta-\Sigma$ , Pl. 33, 4) is described by Tsundas as a centaur, because it has four legs. But if we compare it with the figurines from Tsangli (Fig. 75 e) it is clearly a seated figure as has been pointed out by Vassits<sup>4</sup> and Pfuhl<sup>5</sup>. The "hind legs of the centaur" are either supports to enable the figure to be placed in a sitting position, or else represent the back legs of a stool, the front legs of which have been combined with the legs

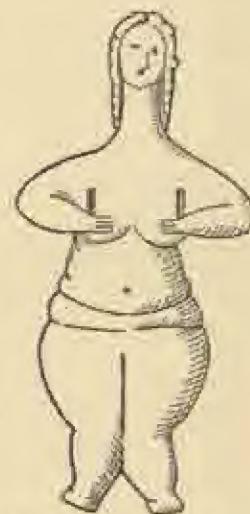


FIG. 35. Restoration of standing type of terra-cotta figurines from Sesklo (scale 2:3).

<sup>1</sup> *Br. Mus.* 1898, p. 101.

<sup>2</sup> Doerphold, *Vierter Brief über Lekha-Ithaka*, p. 10, Fig. 2.

<sup>3</sup>  $\Delta-\Sigma$ , pp. 115, 121.

<sup>4</sup> *B. S. A.* xiv, p. 322.

<sup>5</sup> *G. G. A.* 1910, p. 836.

of the figure. Two others seem to belong to this class (Δ-Σ, Pl. 33, 5, 6): another fragment (Δ-Σ, Pl. 35, 4) seems to be a foot from one of these seated figures. These figurines are also steatopygous, but not to such a great extent as the standing figures. The hands sometimes rest on the knees, sometimes are placed on the breasts as in the first class. Perhaps one other rather shapeless fragment (Δ-Σ, Pl. 35, 2) should also be assigned to this class. The most remarkable seated figure, however, is one (Δ-Σ, Pl. 31, 2) which by the style of its decoration belongs clearly to the Second Period, for it is painted in the style of the second category of B3a. It represents a woman seated on a four-legged stool and nursing a baby. It is to be noted that the figure is steatopygous, and that the head was set on separately, but whether it was of clay or not, we cannot tell.

As regards technique, the figurines of these two classes are well made of refined clay, and though seldom painted, are as a rule well polished. On the other hand, the figurines of the later periods of the shapeless type are rarely polished. When the early figurines are painted it is as a rule in the red on white style, or some style akin to it. Most remarkable in these figurines is the careful attention to striking detail, for instance in the hair, as in Δ-Σ, Pls. 32, 1; 33, 4. The makers of them tried to represent what they saw by rendering the most prominent details in a broad, vigorous manner, and though the results are crude, they are exceedingly interesting for the freshness and simplicity of their observation.

**Standing shapeless type.** These figurines all seem to be female, though the sex is not always clearly indicated: some are steatopygous. This class is much ruder than the other two, though later in date. The legs and bodies are rendered by a flat plank-like piece from which the head and arms spring out as rough excrescences, Δ-Σ, Pls. 34, 2-7, 10; 35, 3, 5. There is a variety of this class, four specimens of which were found (Δ-Σ, p. 285). The heads which are missing were made of some other material, probably stone, as in the case of the figures from House Q at Rakhmani, though Tsundas thinks that they may have been in clay, and inserted into the bodies. Two examples from Sesklo are figured, Δ-Σ, Pls. 34, 1; 35, 1. The so-called bone figurine (Δ-Σ, p. 306, Fig. 230δ) is possibly such a head: if so it is inverted in Tsundas' illustration.

**Male figures.** Of the two found, one (Δ-Σ, Pl. 33, 2) is remarkable for its phallic character, and is well made: it represents a standing man. The other (Δ-Σ, Pl. 33, 7) has no remarkable features, and might even be female.

The two animal figures both represent quadrupeds, but they are too rude to enable us to determine what they are. Δ-Σ, Pl. 34, 10, 11.

Amongst fragments there are to be noted a painted head (Δ-Σ, Pl. 34, 8) which might well have belonged to a figurine of the first or second class, and a small figure (Δ-Σ, Pl. 34, 12) very like one from House 7 at Tsangli (Fig. 69f, p. 120).

We may also mention here two other odd fragments, one is apparently part of an anthropomorphic vase (Δ-Σ, p. 301, Fig. 228) and the other the end of a rod-like lug pinched with the fingers to give it some resemblance to a face. The latter may be the head and neck of a long-necked figure.

*Stone.* The most remarkable stone figure from Sesklo is a long plank-shaped piece of marble, Δ-Σ, Pl. 31. 1, of which unfortunately the middle is missing. On it are painted patterns in red and brown in the style of the three colour ware, B37. A fragment of a similar figure was also found. From their decoration they clearly belong to the Second Period.

Besides these there were found twenty other stone figurines<sup>1</sup>. The smallest and most perfect (Δ-Σ, Pl. 37. 1) is the only one not of marble. It has a hole bored through its middle as though meant to be used as a charm. The sex cannot be determined, though it seems likely that it is male.

Another figure (Δ-Σ, Pl. 37. 2) recalls the type of some terra-cotta specimens from Tsangli, and also the marble figure from Avaritsa, Figs. 73, 115. It is short and very fat, and the details of the figure are very rudely rendered.

The other four figures illustrated by Tsundas (Δ-Σ, Pls. 37. 3-6; 38. 8) are all varieties of the fiddle-shaped type. One is primitive (it seems to be upside down in Tsundas' illustration, Δ-Σ, Pl. 37. 6), two represent a more advanced type, and another (Δ-Σ, Pl. 37. 3) probably had a head like Δ-Σ, Pl. 38. 8. In these the difference between the Thessalian and the Cycladic types is to be noted. The Thessalian figures have very long necks and beads, and are much narrower in proportion to their length than the Cycladic examples.

As regards the general question of the sequence of the figurines, Tsundas is undoubtedly right in saying that they show a steady degeneration. Of the terra-cotta figurines the best examples all belong to the First Period, and those of the later periods are of the shapeless type. Similarly, he is probably right in saying that the stone figures belong in the main to the Second Period. But the evidence from Kakhmani (House Q) and Zeregia shows that he was misled in saying that figurines practically died out after the end of the Second (Neolithic) Period. But it seems likely that, though apparently common in the Third, they were not much used in the Fourth Period.

#### *Stone Axes and other Implements.*

At Sesklo and Dhimini together about 550 unbored celts were found, but Tsundas does not say how many were found at each site. At Sesklo the following types occur:

Type A. Tsundas illustrates<sup>2</sup> the following examples, Δ-Σ, Pls. 39. 10; 41. 1, 4, 6.

Type B. This seems to have been very common, there are many figured by Tsundas, Δ-Σ, Pls. 39. 4, 7, 9, 14, 16, 18; 40. 7, 9, 11, 24, 30-32.

Type C. Tsundas figures the following, Δ-Σ, Pls. 39. 5, 12, 13; 40. 6, 8, 17, 28; 41. 8.

Type D. This occurred only in the deposits of the First Period; the following specimens are given by Tsundas, Δ-Σ, Pls. 39. 1-3, 15; 40. 5, 10, 16, 20, 23; 41. 5.

Type E. Twelve specimens were found, but none are complete, and

<sup>1</sup> Perhaps the two curious fragments of stone figured by Tsundas (Δ-Σ, p. 338, Figs. 268, 269) are also pieces of stone figurines.

<sup>2</sup> He does not give the provenance of the celts shown in Δ-Σ, pp. 308 ff., Figs. 231-240.

there were five or six other pieces that may be from bored celts or from club heads. The most perfect specimen is unfinished ( $\Delta-\Sigma$ , Pl. 41, 2), all the others are more or less broken ( $\Delta-\Sigma$ , Pl. 41, 7, 10). The most remarkable fragment is figured by Tsundas in  $\Delta-\Sigma$ , Pl. 41, 9: this, like a similar fragment from Zerelia<sup>1</sup>, has a thickening round the place where it is bored through. Celts of similar form occur in Bulgaria and at Troy<sup>2</sup>. Possibly this specimen and the other from Zerelia are not of Thessalian manufacture, but importations from the north.

**Chisels.** Many were found, those illustrated by Tsundas may be classed thus: Type A,  $\Delta-\Sigma$ , Pls. 39, 6, 8, 11, 17; 40, 15, 25; Type B,  $\Delta-\Sigma$ , Pl. 40, 1, 3, 4, 14, 19; Type C,  $\Delta-\Sigma$ , Pl. 40, 13, 33.

As to the relative date of the various types it is to be noted that chisels of Type C are very rare. This is not surprising when we reflect that this is one of the later types of celts, and that most probably when it was in use bronze had already been introduced for the smaller cutting implements.

**Club Heads.** Ten were found of which only two are complete,  $\Delta-\Sigma$ , Figs. 249, 250, pp. 323, 324.

**Arrow Heads.** Three were found, all of flint. One is of the hafted type,  $\Delta-\Sigma$ , Pl. 42, 2, and the other two of the barbed type,  $\Delta-\Sigma$ , Pl. 42, 11, 12. The hafted type Tsundas believes to belong to the Second (Neolithic) Period, and the barbed type he assigns to the Bronze Age. This is probably right, for barbed arrow heads of flint occur at Mycenae<sup>3</sup>, one was found in Tomb F at Zerelia<sup>4</sup>, and they have been found at Pylos and Leukas<sup>5</sup>. But the hafted type was found in a tomb, which seems to have contained Minyan ware, on the Acropolis at Athens<sup>6</sup>.

**Spear Heads.** Four were found, all of flint.  $\Delta-\Sigma$ , Pl. 42, 14, 15, 17, 18. As at Rakhmani two types occur, long and narrow,  $\Delta-\Sigma$ , Pl. 42, 15, 17, and short and broad,  $\Delta-\Sigma$ , Pl. 42, 14, 18. These seem to belong to the Second Period.

**Flint and Obsidian knives.** These were common in all strata. About sixty knives and flakes of flint were found, and about three times the number of obsidian flakes. The obsidian knives ( $\Delta-\Sigma$ , Pl. 42, 19, 20) call for no remark, as the obsidian seems to be Melian. The flint used is not true flint, but chert, and varies in colour from red to milky white. Tsundas thinks that it was imported from Epirus and Albania. We have observed that in Central and Southern Thessaly the flint (chert) knives are red, but that in North Thessaly, as at Rakhmani, they are yellowish white. Also in the Spercheus valley and in Phocis the flint (chert) flakes are red, and flint is to be found in rough lumps in the soil. Of the flint implements from Sesklo some are knives ( $\Delta-\Sigma$ , Pl. 42, 21-24), and others seem to be saws like those from Lianoklithi (Fig. 139, p. 192,  $\Delta-\Sigma$ , Pl. 42, 25, 27, 28).

**Rubbers, Pounders, and Polishers.** Many of various types were found,  $\Delta-\Sigma$ , pp. 332 ff., Figs. 261-263.

**Sling Bullets.** Eleven were found,  $\Delta-\Sigma$ , p. 328, Figs. 252, 253. Tsundas

<sup>1</sup> p. 164.

<sup>2</sup> Doerpfeld, *Troya und Hion*, 6, p. 372, Figs. 350 ff., cf. p. 258.

<sup>3</sup> Schliemann, *Mycenae*, p. 272, Fig. 435; cf. *Excavations at Phylakopi*, p. 223, 1.

<sup>4</sup> p. 161.

<sup>5</sup> Doerpfeld, *Fünfter Brief über Leukas-Ithaka*, p. 30; *Ath. Mitt.* 1900, p. 292, Pl. xv.

<sup>6</sup> *Top. Arch.* 1902, p. 128.

says that it is not certain whether these are sling bullets or not, and suggests that they may be weights. But this is unlikely, since they are the same shape as the terra-cotta sling bullets<sup>1</sup>, which cannot possibly have been weights.

Mill Stones. Many saddle querns were found, Δ-Σ, p. 330, Fig. 256.

Whetstones. Several were found, Δ-Σ, p. 330, Figs. 254, 255.

Troughs. Three were found, two of which were near the supposed oven in the Megaron; it is possible, as Tsundas suggests, that they were used for making bread or other food, Δ-Σ, p. 331, Fig. 257.

Mortars. A few were found, Δ-Σ, p. 331, Fig. 259; these resemble very closely the stones in which the pivots of the doors turned.

Finally, we may note that a few fragments of well made stone vases were found amongst the remains of the First Period.

#### *Miscellaneous Objects.*

*Bone and Horn.* Pins and awls, about ninety were found<sup>2</sup>, Δ-Σ, Pl. 45, 1-7.

Gouges, about forty, Δ-Σ, Pl. 45, 8-12: with these are to be classed two gouges with heavy heads and decorated with horizontal flutings, one belongs to the First Period, Δ-Σ, Pl. 46, 9, 10.

Bone tubes, of uncertain use, about eight, Δ-Σ, Pl. 45, 13, 14.

Scrapers, made of rib bones and often bored at one end, Δ-Σ, Pls. 45, 17, 18; 46, 1-3.

Bone chisel, one, Δ-Σ, Pl. 46, 4.

Spoon, one, Δ-Σ, Pl. 46, 8.

Bone whorls, three, Δ-Σ, Pl. 46, 14-16, all three belong to the Third and Fourth Periods.

Club heads, of red deer antlers, three, Δ-Σ, Pl. 47, 1, 2, 12; according to Tsundas' account of the circumstances in which they were found, they seem to belong to the Third Period.

Hammers, bored, three, Δ-Σ, Pl. 47, 6, 7, 13: they seem to belong to the Fourth Period.

Hafts, one, Δ-Σ, p. 516, Fig. 242, see p. 24.

Pick (?), one, Δ-Σ, Pl. 47, 4.

Adzes, three, Δ-Σ, Pl. 47, 8, 9, 11: one is of the Second and the others of the Third Period. Finally, there are three inexplicable pieces of worked bone, Δ-Σ, Pls. 45, 16; 46, 11; 47, 14.

*Stone, etc.* Buttons, Tsundas illustrates three, Δ-Σ, Pl. 43, 3-5, which belong to the First and Second Periods.

Pendants, bored and unbored, Tsundas figures several, one from Sesklo, Δ-Σ, Pl. 43, 7, and thirteen others of various shapes, but he does not give their provenance, Δ-Σ, Pl. 43, 11-21, 25, 31.

Pierced discs, there is one from Sesklo, Δ-Σ, Pl. 43, 24, and two of which the provenance is not given, Δ-Σ, Pl. 43, 22, 23.

Beads, for necklaces, Tsundas figures four (Δ-Σ, Pl. 43, 26-30) of the Second Period, but does not give their provenance. For various stone beads of the Fourth Period see Tombs 25, 28, 38, 43.

<sup>1</sup> Cf. p. 73.

<sup>2</sup> The so-called bone figurine (Δ-Σ, p. 306, Fig. 230 δ) may also be a bone pin or scraper.

*Terra-cotta.* Seals, four were found, and all belong to the First Period, Δ-Σ, pp. 340 ff., Figs. 270-273. One of them both in shape and in design resembles the stone button seal from Tsani.

Whorls, about five hundred were found at Sesklo and Dhimini, but Tsundas does not say how many were found at each site. He notes that the flat type is early, and belongs to the two Neolithic Periods, many of which are decorated (Δ-Σ, Pl. 44, 3, 11, 12). The smaller conoid types (Δ-Σ, Pl. 44, 13, 14, 18) occur in all periods, but the taller and thicker conoid types, especially those of double conoid shape, are typical of the Third and Fourth Periods (Δ-Σ, Pl. 44, 20-23); for instance tall conical whorls occur in Tombs 25, 36, 41, 53, 55. There are also two rather unusual varieties from this site, Δ-Σ, Pl. 44, 17, 19.

Sling bullets, about 110 were found of the usual oval shape, and there were also two or three of a spherical shape.

Red ochre, Tsundas figures (Δ-Σ, p. 342, Figs. 274, 275) two lumps.

Spit supports, two lumps of terra-cotta were found, which resemble those from Rakhmani, Δ-Σ, p. 345, Figs. 276, 277.

Spools, two solid cylindrical spools are figured by Tsundas, Δ-Σ, p. 346, Figs. 278, 279, and he says that many more were found in deposits of the Second Period. As he remarks, these solid spools are to be clearly distinguished from those of the Fourth Period, which are bored longitudinally, and splay widely at the ends, such as were found in Tombs 7 and 53; see pp. 66 ff. Many specimens of such bored spools were also found in the deposit of the Third and Fourth Periods, as well as several plain cylinders bored longitudinally.

Anchor-shaped ornaments, Δ-Σ, pp. 346, 347, Figs. 280-282. Five were found at Sesklo in the deposit of the Fourth Period; one similar specimen was found at Pagasae with L.M. II vases<sup>1</sup> (cf. Fig. 140 f., p. 198).

Spoon or scoop, one specimen, Δ-Σ, p. 348, Fig. 283.

Miniature altar (?) with three small basins on top, probably Neolithic, one example, Δ-Σ, p. 348, Fig. 286.

Ring, or stand for round bottomed vases, one, Δ-Σ, p. 350; Fig. 290.

Oval plates, with holes bored at the ends, 10 m. long by 0.7 m. wide, three specimens, Δ-Σ, p. 348, Fig. 287. Their use is unknown, but Tsundas suggests that they were used by bowmen to protect their hands.

*Glass paste.* Ornaments of this material were found in Tombs 25 and 43.

*Corn, etc.* In deposit of the Second Period were found (Δ-Σ, p. 359) wheat, barley, peas, acorns, almonds, and figs.

#### Metal Objects.

*Bronze and copper.* Axes, two single-edged axes were found at a depth of 1.60 m. and near the wall of a neolithic house, where Tsundas thinks they had been purposely buried. They are not of bronze, but of almost pure copper. In shape (Δ-Σ, pp. 352, 353, Figs. 292, 293) they seem very primitive and approach closely to the shape of the celts of Type I, which

<sup>1</sup> *Ath. Mitt.* 1892, p. 266; cf. Chapter X.

on other grounds we believe to be one of the latest type of celts; cf. Δ-Σ, Figs. 237, 292.

Drills, two were found, Δ-Σ, Pl. 4, 4, 5: these are very similar to the bronze and bone drills from Rakhmani.

Pin, one broken specimen was found.

In addition there were found in the tombs many bronze beads, daggers, knives, rings, etc.: these are detailed above under Tombs 7, 17, 22, 25, 28, 29, 32, 38, 49, 50, 53, 56.

With the actual bronze objects we may also class the implements used in making them: of these the following were found at Sesklo:

Moulds for double axes<sup>1</sup>, two were found in the deposit of the Fourth Period, Δ-Σ, p. 333, Fig. 264.

Moulds for spear heads, one for making a spear head like that from Tomb 56, and in the same place two other moulds for making spear heads of a simpler type, Δ-Σ, pp. 334, 335, Figs. 265-267. These apparently also belong to the Fourth Period. All the moulds are of stone.

Close to the moulds was found a terra-cotta ladle, which still contained traces of bronze, Δ-Σ, p. 349, Fig. 288.

*Gold.* In the deposit of the Second Period a small gold pendant was found. It is in the shape of a ring with a bored attachment above, Δ-Σ, p. 350, Fig. 291. It resembles in shape a stone pendant from Dhimini, Δ-Σ, Pl. 43, 8. No other gold was found except in Tombs 7 and 25, which belong to the Fourth Period. This seems to show that gold, though known earlier than bronze, was nevertheless very scarce.

*Silver* was found only in Tombs 28 and 41.

*Lead*, the only example found was a double axe, 15 m. long and 0.54 wide, which was in the deposit of the Fourth Period. It seems to have been cast in a mould similar to that already mentioned above.

### B. HUT FOUNDATIONS NEAR SESKLO.

In the neighbourhood of the main settlement at Sesklo Tsundas found the foundations of huts in two places.

Just beyond the neck which unites the cape on which the settlement stands to the main slope of the hill, is a circular hut<sup>2</sup> which has in front of the door a projecting foundation shaped like half an ellipse. This hut, to judge by the potsherds found within it, belonged to the First Period. Here also was found a seated female figurine of terra-cotta with the legs stretched straight out in front, Δ-Σ, p. 294. Flint and obsidian flakes also occurred.

The other remains<sup>3</sup> lie on the slope of the hill beyond the torrent that flows under the settlement on the south. They consist of one hut roughly circular in shape with three bothroi attached. One bothros was full of ashes, and Tsundas thinks it was a refuse pit. The other two bothroi he thinks were store chambers. The potsherds found here indicate that these foundations belong to the Third Period. Apart from a wedge-shaped celt nothing of note was found. The huts built on these foundations seem to have been

<sup>1</sup> Not of the typical Cretan type, which has not as yet been found in North Greece.

<sup>2</sup> Δ-Σ, p. 110, Fig. 25.  
<sup>3</sup> Δ-Σ, p. 117, Figs. 26, 27.

of wattle and daub to judge by fragments found. Tsundas also thinks that the twelve cist tombs built of small slabs found near belonged to the inhabitants of the hut.

### C. DHIMINI.

Three-quarters of an hour west of Volos (*Iolcus*) at the foot of the hills that bound the plain in that direction lies the village of Dhimini. In the plain before the village lies a small natural mound (p. 8, no. 2), called Tumba (*Τούμβα*), on which stand the remains of prehistoric hamlets. This mound first attracted the attention of Lolling<sup>1</sup> who placed here the Homeric Ormenion. Later Stais<sup>2</sup>, during the excavation of the tholos tomb that had been found in the mound while searching for other tombs, discovered the prehistoric settlements, which he immediately began to explore. The excavations were completed by Tsundas in 1903. The mound is not more than sixteen metres above the level of the plain, but the depth of the prehistoric deposit does not seem to have been ascertained. The area occupied by the prehistoric settlements is about 110 metres long by 90 wide. From the following description of the finds it will be seen that the settlements flourished during the Second, Third and Fourth Thessalian Prehistoric Periods.

### Pottery.

*First (Neolithic) Period.* Not more than five sherds of A wares<sup>3</sup>, as we may call typical wares of this period, were found here. Thus it may be assumed that the settlement here was not founded till after the close of that period.

*Second (Neolithic) Period.* B1. Monochrome hand-made ware. As remarked above, this cannot be readily distinguished from I<sub>3</sub>, for it has no marked characteristics of its own. The most usual shape is (a) a shallow bowl narrowing in to a flat base ( $\Delta-\Sigma$ , p. 197, Fig. 106), which is the typical shape of the characteristic ware of the period, B<sub>3a</sub>. Other shapes noted by Tsundas are (b) small dippers with vertical loop handles on the rim,  $\Delta-\Sigma$ , p. 197, Fig. 105, (c) tall, deep bowls narrowing towards the base and with knobs on the rim,  $\Delta-\Sigma$ , p. 198, Fig. 108, and there is a fragment that seems<sup>4</sup> to be part of a legged cooking pot like the Tsangli example,  $\Delta-\Sigma$ , p. 198, Fig. 109.

Pithoi: fragments of large store jars decorated with bands of applied clay either slashed across or pinched in with the fingers were common. The patterns, which sometimes run in belts ( $\Delta-\Sigma$ , p. 232, Fig. 129), recall ropework, and curved lines are frequent ( $\Delta-\Sigma$ , pp. 230 ff., Figs. 125-127). Naturally, in large pots like these the clay is not well refined, the fabric is coarse, and the firing is irregular.

B2. Incised ware. This is very common. The biscuit is usually grey,

<sup>1</sup> *Ath. Mitt.* 1884, pp. 92 ff.

<sup>2</sup> *Opacriti* 1901, pp. 37 ff.

<sup>3</sup> Tsundas classes with these a vase that is Mycenaean in character (L. M. III), but is hand-made ( $\Delta-\Sigma$ , p. 125, Fig. 49). It seems to us more

likely that it is of Mycenaean date, perhaps made locally in Thessaly.

<sup>4</sup> Tsundas admits this possibility, but thinks it more likely that it is a horned lug.

occasionally red brown, and rarely reddish. The incisions were filled with white, rarely with red. The patterns are linear, but rather elaborate, showing various combinations of geometric and spiral elements, and are usually rendered by short and long, curved and straight lines: dots are rare. They are often arranged in panels ( $\Delta-\Sigma$ , Pls. 17, 6; 18, 1, 12; 19, 7), and another great feature is the crossing of three or four lines by another ( $\Delta-\Sigma$ , Pls. 16, 1; 17, 5; 18, 2; 19, 11). A common shape seems to have been a shallow bowl narrowing to a flattened base, with lugs or small ribbon handles and occasionally handleless,  $\Delta-\Sigma$ , Pls. 18, 12; 19, 7; cf. Fig. 9, p. 30, from Rakhmani. Tsundas also illustrates three more or less complete vases which are variants of the same general type: one is a bowl on a high raised base with a high neck and pierced lugs on the shoulder ( $\Delta-\Sigma$ , Pl. 16, 2), another is a bowl with a high neck<sup>1</sup> to which are attached two small vertical handles by the rim ( $\Delta-\Sigma$ , Pl. 17, 1), and the third is like the second, but has vertical ribbon handles on the shoulders ( $\Delta-\Sigma$ , Pl. 16, 1, cf. Pl. 18, 8).

As is easily seen from the likeness of the patterns this incised ware is similar to the typical painted ware of the period, B3a. But this class of incised ware is not common in Thessaly: it has been found at Sesklo, and there are two specimens from Rakhmani, and a kindred ware occurs at Phthiotic Thebes.

B3a. Dhimini ware. Enormous quantities of this painted ware have been found at this site, which has in consequence given it its name. The

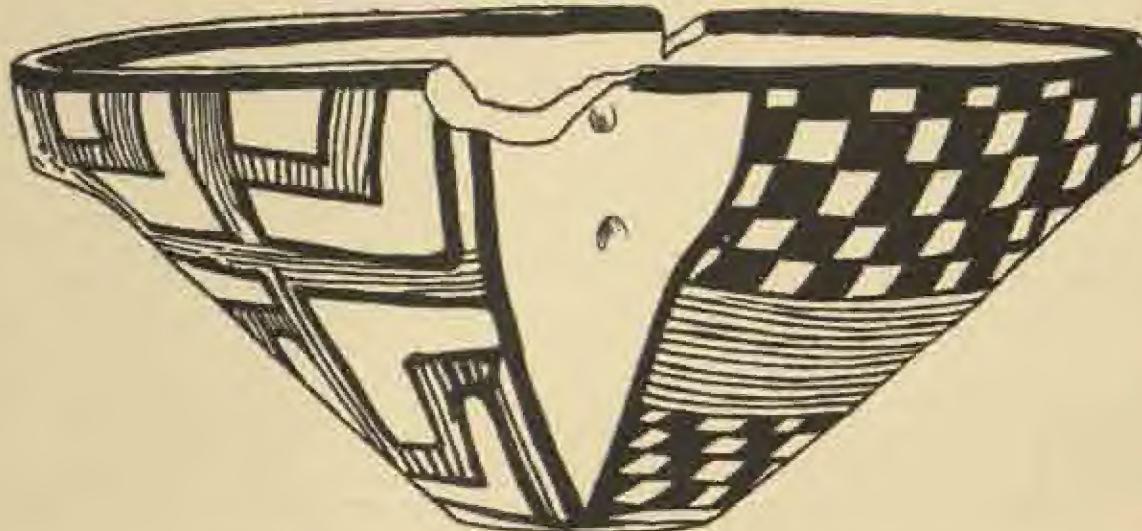


FIG. 36. Bowl (B3a) from Dhimini, after Tsundas, PL 9 (scale 3:5).

characteristics of the three categories into which it is divided have been detailed above, so that there is no need to repeat them here. As usual, the patterns present an infinite variety of combinations of geometric and spiral elements<sup>2</sup>. The commonest shape is (a) a shallow bowl narrowing in to the base (Fig. 36). This is painted inside and out, and has two or four

<sup>1</sup> As seen in the plate, part of the neck was broken and mended in antiquity. <sup>2</sup>  $\Delta-\Sigma$ , Pls. 20, 1, 4; 21, 1, 4; 25, 1, 3, 5; 26, 1-3; 27, 1, 6, 8; 28, 4, 7; 29, 2, 7.

projections just below the rim in which are bored string holes, often as many as three (Δ-Σ, Pl. 24, 1-6). Again, as at Sesklo, these projections are developed by painting or modelling into human heads (Δ-Σ, Pl. 23, 2-4). Other shapes that occur are (δ) "fruitstands," shallow bowls similar to (α), but set on a high tapering stem, Δ-Σ, Pls. 25, 4; 26, 4-6; 28, 2, 5; 29, 5, 9. (ε) two-handled jugs (cf. Δ-Σ, p. 215, Fig. 118 from Sesklo, Pl. I from Rakhmani) with wide round bodies sloping in gradually to neck and base, (η) small mugs or cups (cf. Δ-Σ, Pl. 21, 3 from Sesklo) with vertical string holes. It is hard to realise how much of this ware was found at Dhimini, and how well made it is. Most of the fragments are of the first shape (α) described above.

B3β. Three coloured ware. Only two shapes can be determined, (α) "fruitstands," (δ) spit supports, rectangular bases narrowing to the top. How much of this ware, in comparison with other wares of the Second Period, was found is not clear in Tsundas' account, for he only illustrates one piece (Δ-Σ, Pl. 8, 6), and it does not appear that any fragments of the second shape (δ) were found here. But amongst sherds found at Dhimini since the excavation (now in the Volos Museum) fragments of this ware are fairly common.

B3γ. Three coloured ware. Apart from the splendid complete vase (Δ-Σ, Pl. 11, 25 m. high) found by Stais, few pieces of this ware occurred. Most pieces (e.g. Δ-Σ, Pl. 6, 3) seem to come from wide bowls, the exact shape of which cannot be determined.

Γ1α1, Γ1α2, Γ1α3. No sherds were found.

Γ1β. None was found.

Γ1γ. Crusted ware. Fifteen sherds were found (Δ-Σ, Pl. 12, 1-5, 7), which belong to both categories. Of the sherds illustrated by Tsundas two (Δ-Σ, Pl. 12, 1, 2) are of the first, three (Δ-Σ, Pl. 12, 3, 5, 7) of the second category, and one combines the characteristics of both (Δ-Σ, Pl. 12, 4). The patterns include groups of short parallel lines, triangles, and crescents. Most of the fragments come from bowls either open or narrow necked, but one complete vase which seems to be of the first category (Δ-Σ, p. 276, Fig. 204) is a small one-handled cup.

Γ1δ. None was found.

Γ1ε. See Mattmalerei below.

Γ2. Tsundas assigns to this class a fragment of a handle found near virgin soil (Δ-Σ, p. 252, Fig. 153). A small isolated piece like this is hard to place, and it should perhaps rather be assigned to B2 (cf. Δ-Σ, Pl. 16, 2, 3).

Γ3. Monochrome hand-made ware, usually polished. The bulk of the plain ware of the Third and Fourth Periods falls into this class. At Dhimini the following shapes occur:

Γ3α. Two-handled cups: apparently these were found here, although Tsundas does not definitely say so.

Γ3β. Shallow bowls with raking handles: Tsundas does not make it clear whether any pieces of these were found or not.

Γ3γ. High, wide bowls with small vertical handles with a long attachment below against the side of the vase (Δ-Σ, p. 279, Figs. 212, 213, 215), occasionally there is a horn on the top of the handle.

Γ3ζ. Askoi, one example, Δ-Σ, p. 276, Fig. 206.

Γ3θ. Deep bowls with slightly rounded bottoms, and with vertical ribbon handles or lugs, Δ-Σ, p. 277, Fig. 207. The various types of horizontal lugs, rectangular, horned, or pierced, that are figured by Tsundas (Δ-Σ, pp. 268 ff., Figs. 182-185) may belong to this shape.

Γ3λ. Conical lids with oblong peaks bored horizontally, four, Δ-Σ, p. 274, Fig. 199.

Γ3ν. Small handleless cups, often with knobbed decoration, Δ-Σ, p. 261, Figs. 165-167.

Γ3ρ. Small one-handled cups, Δ-Σ, p. 262, Fig. 168.

Γ3ρ. Large beaked bowls with horseshoe bases (see Fig. 23α, p. 64), to this type several fragments apparently belong, Δ-Σ, p. 266, Figs. 177-179.

Γ3τ. Small ladles or dippers with vertical ribbon handles on the rim, Δ-Σ, p. 273, Fig. 197.

Γ3ν. Deep, open bowls narrowing in to a raised base; one vase figured by Tsundas may fall in this class (Δ-Σ, p. 277, Fig. 20), but it is not very like the Rakhmani specimen, Fig. 23δ, p. 47.

Γ3φ. Tall, deep, open jars, Tsundas figures two varieties, Δ-Σ, pp. 262 ff., Figs. 169, 170.

Γ3χ. Deep bowls of coarse ware with rudimentary handles; Tsundas figures three vases that belong to this general type, Δ-Σ, pp. 275 ff., Figs. 200-202, one of which is double in form.

Many varieties of handles, lugs, or projections pierced for string holes are figured by Tsundas (Δ-Σ, pp. 264 ff., Figs. 172-176; pp. 279 ff., Figs. 214-217), but the shapes to which they belong cannot be determined.

Pithoi: fragments of these, decorated with raised ornamentation slashed across or pinched in with the fingers to recall ropework, are common as usual in the later strata, Δ-Σ, p. 281, Fig. 219.

Δ2α. This is the plain ware that corresponds to the painted primitive geometric ware (Δ1α) of the kind found at Sesklo, Marnianian, and Theotoku<sup>1</sup>. Two specimens of the typical shape, a beaked jug with the back of the neck above the handle cut away, were found at Dhimini in Tomb 57 (Fig. 37) and 61.

Minyan ware; only one definite specimen was found in Tomb 57, a shallow cup with two handles projecting high above the rim.

Mattmalerei. A few sherds were found<sup>2</sup>, and also in Tomb 57 was found a jar with a loop handle on the rim that may be considered as belonging to this class.

Mycenean (L.M. III?) ware. According to Bosanquet<sup>3</sup> some sherds

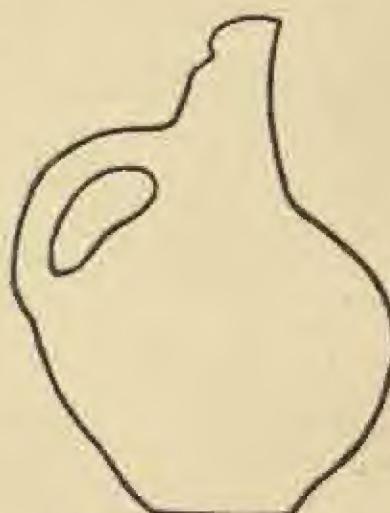


FIG. 37. Jug from Tomb 57 at Dhimini (scale 1:4).

<sup>1</sup> See Chapter XI

<sup>2</sup> Δ-Σ, p. 249.

<sup>3</sup> J. H. S. 1901, p. 343.

of ordinary Mycenaean ware were found in the upper strata, but Tsundas<sup>1</sup> seems to know nothing of them.

To judge by the pottery alone, the prehistoric settlement at Dhimini was most flourishing in the Second (Neolithic) Period, and was of comparatively little importance in the succeeding Third and Fourth Periods. Though practically the whole site has been excavated, very few cist tombs were found compared to those at Sesklo. On the other hand, the two tholos and two cist graves with Mycenaean (L, M, III) objects, especially the gold ornaments from one tholos tomb (Tomb M<sub>4</sub>), seem to imply that there was here in the Third Late Minoan Period a fairly prosperous settlement. But even if the settlement was flourishing at the end of the Fourth Period (Bronze Age), it does not at all events seem to have been prosperous during the Third (Chalcolithic) Period or in the early part of the Fourth. Further details of the stratification of the pottery would make this clearer, for as will be seen by the summary given above there are many points that are obscure.

#### *Architecture.*

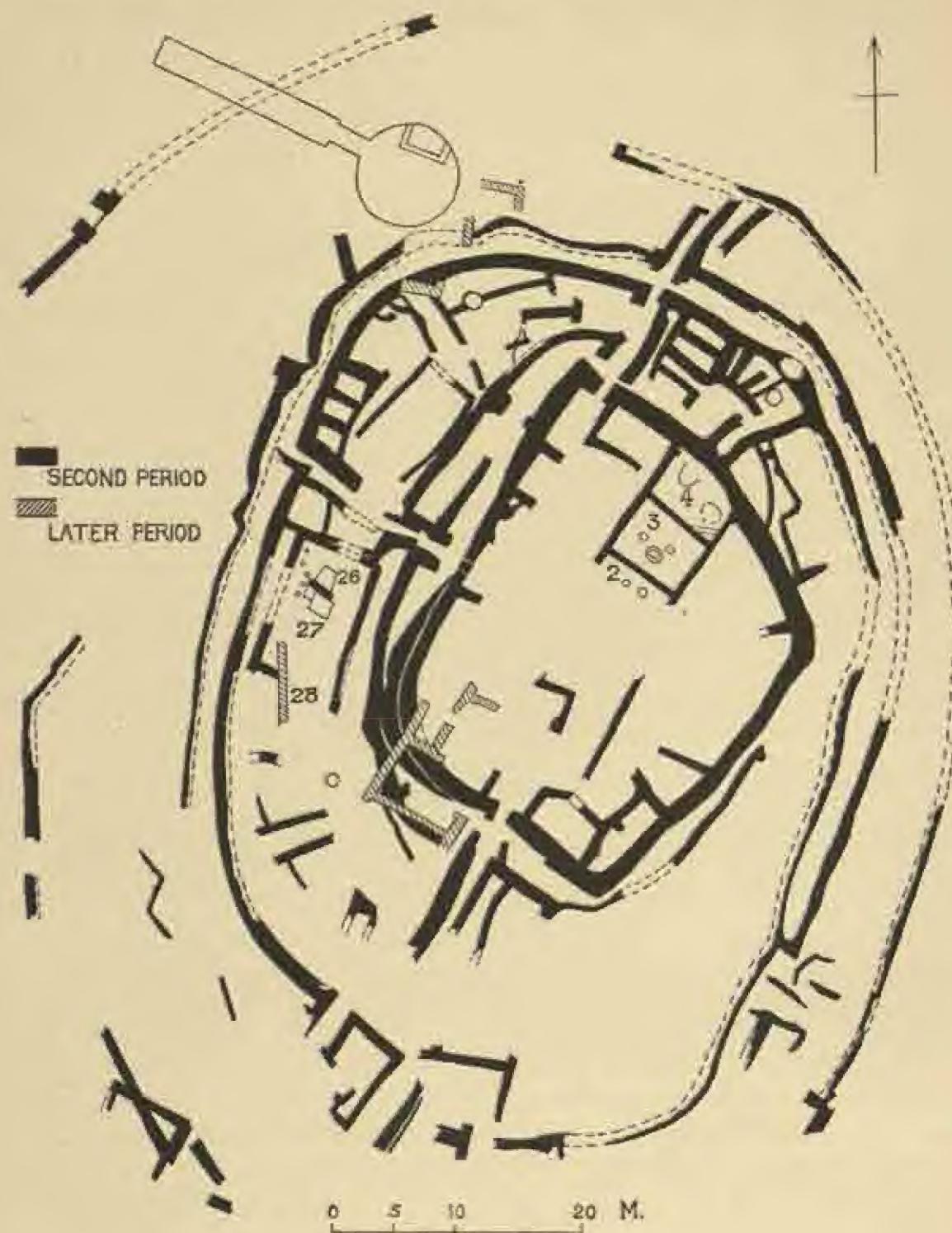
The architectural remains are practically confined to the Second Period, for the First is naturally not represented at all, and the remains of the last two Periods are so meagre as to be of no use. The methods of construction are precisely the same as at Sesklo, p. 64, excepting that no mud plastering was observed on the inner faces of the stone walls. This, however, as Tsundas says, was probably fortuitous.

**Fortifications.** The central and highest part of the town is an oval courtyard, in which stands a Megaron and a few smaller buildings. The whole courtyard is surrounded by a series of walls in some places fifteen metres and in others barely one metre apart. Between these walls are the smaller houses of the settlement. The remains of six or seven such circuit walls have been found, but it is impossible to say what the original number was. They vary in thickness from 60 m. to 1.40 m. and are built of rough stones laid in mud or clay. The original height is naturally somewhat doubtful, but it does not seem to have been more than 2.90 m. on the outside, for inside is a platform of beaten earth, obviously intended for the defenders to stand upon as they shot over the top. There are no towers, nor any sharp angles, and the walls follow the oval shape of the mound on which they stand. The gates are not especially fortified, but are small and open into narrow alleys; there are only two entrances into the central courtyard, though at one time there was a third which was afterwards blocked up.

**Houses.** The types of the smaller houses can be seen on the plan, Fig. 38; two larger buildings of the Megaron type (2, 3, 4 and 26, 27, 28 on plan, and Fig. 39 larger scale) need some description; they are called by Tsundas Megaron A and Megaron B respectively.

**Megaron A.** Fig. 39. This is made up of two rooms and a porch. The larger room, 3, is 6.35 metres wide, and in length varies from 4.20 metres to 5.50 m.; the smaller room, 4, is about the same width, and varies

<sup>1</sup> 2-2, p. 31.



from 3'20 mm. to 4'50 mm. in length. The walls have an average thickness of .60 m. and the floor is paved with small stones. In the porch were two wooden columns, and two others stood near the circular hearth in the front room. In the inner room was a semi-circular hole with built overhanging sides, which Tsundas thinks was an oven, *Δ-Σ*, p. 54. Fig. 10: and also a more or less circular enclosure of upright slabs. This Tsundas thinks was either a hearth or a store place for fruits, but is not quite certain that it is not earlier than the main building.

Megaron B, Fig. 39, has been largely restored in the plan. It is similar in type to Megaron A, but the hearth is placed by the back wall of the front room and the door leading into the back room is near the end of the wall.

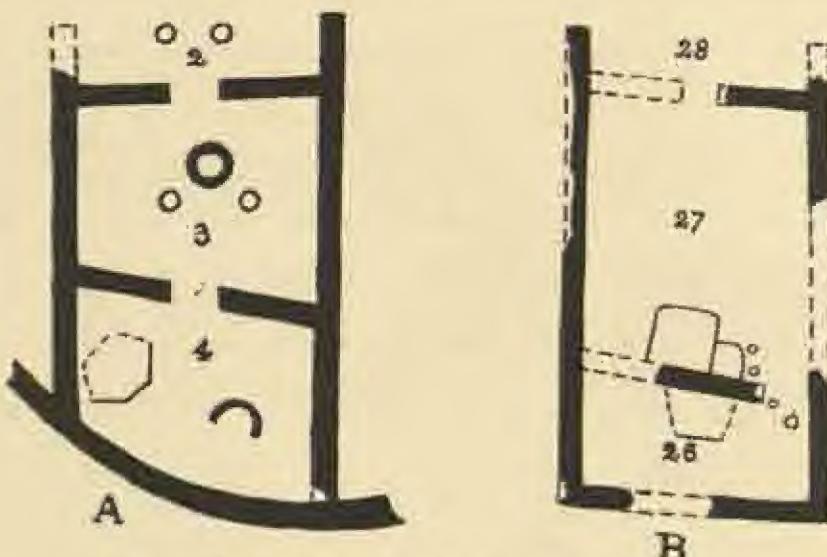


FIG. 39. Megara at Dhimini, after Tsundas (scale 1:200).

The back room also contains a hearth, and the door leading to it swung on a pivot. The importance of both these buildings is that they bear some resemblance to the Mycenaean Megaron of Southern Greece; this point is discussed below in Chapter XI.

The architectural remains from this site provide the only evidence for the general planning of a prehistoric North Greek village, which apparently was very different from the usual scheme of an early Aegean settlement.

#### *Tombs.*

At this site, during the excavation, twenty cist tombs were found, two of which contained Mycenaean vases. Also to be reckoned with the Dhimini tombs are the two tholos tombs that had been excavated previously: one is built in the north side of the low natural rise on which the prehistoric settlements stand (see Fig. 38), and the other is a few hundred yards away to the north-west, at the foot of the hills.

Tomb 57<sup>1</sup>. This contained a conical terra-cotta whorl, a small vase with a loop handle on the rim (Δ-Σ, p. 147, Fig. 56) like that from Tomb 9 at Sesklo, a beaked jug, Fig. 37 (Δ-Σ, p. 148, Fig. 57), similar to that from Tomb 47 at Sesklo, also with the back of the neck cut away, and a wheel-made Mycenaean vase with two handles projecting high above the rim, Δ-Σ, p. 148, Fig. 58.

Tomb 61. This contained two rings of gilt bronze wire, like those from Tomb 7 at Sesklo, four silver and twenty-five sard beads (Δ-Σ, Pl. 4, 3) from a necklace, and a beaked jug<sup>2</sup> similar to that from Tomb 57, Δ-Σ, p. 149, Fig. 59.

Tomb 62. This contained a small hand-made vase (Δ-Σ, p. 149, Fig. 60) which is possibly a local imitation of a common Mycenaean shape (cf. Tombs 13, 25, 36, 44 and 56 at Sesklo), and a small hand-made one-handled vase, Δ-Σ, p. 150, Fig. 61.

Tomb M1. This cist grave contained two Mycenaean terra-cotta figurines of the ordinary type (Δ-Σ, p. 150, Figs. 62, 63), a long-spouted jug (Δ-Σ, p. 150, Fig. 64), a small three-handled jar with a high neck (Δ-Σ, p. 151), Fig. 65), and a small hand-made vase with a loop handle on the rim, and a simple geometric pattern in matt black (Δ-Σ, p. 151, Fig. 66). An exactly similar vase to the last was found in a Mycenaean (L. M. III) tholos tomb at Stiriá (Στριά) in Attica<sup>3</sup>.

Tomb M2. This, also a cist grave, contained one terra-cotta figurine of the usual type and two spouted jugs, Δ-Σ, p. 152, Fig. 67.

Tomb M3. This is the tholos tomb in the hillock on which the prehistoric settlements stand. It had been robbed in antiquity, and contained nothing but some small beads and ornaments of gold and paste. The construction of the tomb itself calls for no remark except that it is built of rough slabs, these being more easily obtainable in the neighbourhood. Within the tomb, on the left, is a small rectangular enclosure which was apparently roofed by large slabs resting on wooden beams. Presumably this served as a kind of built coffin<sup>4</sup>.

Tomb M4. This is the other tholos tomb, known locally as the Laminospito (Λαμινόσπιτο), which lies north-west of the prehistoric site at the foot of the hills. It was first explored by Lolling in 1884<sup>5</sup>, and afterwards excavated by the Greek Government in 1886<sup>6</sup>. In construction it resembles Tomb M3. Within the tomb, all round against the wall, was a bank ('55 m. high) of unbaked bricks laid in five regular rows: on the right side this began about 2'55 mm. from the door. Apparently only inhumation took place within this tomb. In the dromos were found a few fragments of gold leaf and several vase fragments, amongst which pieces of kylikes were common. One kylix is similar to one from Aegina<sup>7</sup>, and none of the fragments seem to be of earlier date than L. M. III. Inside the tomb the vase fragments found were mostly undecorated. But with these latter were many gold ornaments, and many of glass paste, some bronze arrow heads, a gem of lapis lazuli and some other stone and bone ornaments. In general, to judge by its contents, this tomb dates from the third late Minoan period.

<sup>1</sup> We have kept Tsundas' numbering for the sake of convenience.

<sup>2</sup> The top of the spout has been restored in plaster, and should, we think, be shorter.

<sup>3</sup> *Eph. Apx.* 1893, p. 201.

<sup>4</sup> Cf. Tsundas-Manatt, *Mycenaean Age*, p. 385, Fig. 163.

<sup>5</sup> *Ath. Mitt.* 1884, p. 103.

<sup>6</sup> *Ath. Mitt.* 1886, pp. 435 ff. 1887, pp. 136 ff.

<sup>7</sup> Furtwaengler-Loeschke, *Mycenaean Vases*, Pl. xxi. 155.

*Terra-cotta and Stone Figurines.*

At Dhimini eighteen terra-cotta and twenty-one stone figurines were found. Naturally enough none of them are of the First Period, but all belong to the Second and succeeding Periods. Thus, it is interesting to note that the terra-cotta figurines are much inferior to those from Sesklo, Tsangli and other sites where figurines of the First Period were found. Secondly, the high proportion of stone figurines suggests that these were more common in the Second and Third Periods. Of the terra-cotta figurines the following types are to be noted.

Standing shapeless figures, with rudimentary arms and heads, Tsundas figures several, Δ-Σ, Pls. 35. 6, 7, 36. 4. The first of these shows traces of decoration in red and white, which, since it resembles that of the vases of class  $\Gamma\gamma$ , suggest that it should be ascribed to the Third Period. A somewhat similar fragment of a figurine, clearly marked as female, Δ-Σ, Pl. 35. 8, also shows remains of similar painting and should probably be assigned to the same period.

Shapeless bodies with holes between the shoulders for the insertion of heads of another material, probably of stone, like the Rakhmani examples. Four of these were found, Δ-Σ, Pl. 36. 1-3, 5. On the first of them, in which the lower part of the head still survives, there are traces of the application of white. Probably all these, like the Rakhmani figurines, belonged to the Third Period.

Animals, two were found, a bird (Δ-Σ, Pl. 36. 9) and a quadruped (Δ-Σ, Pl. 36. 8).

Other fragments of less importance include a pair of legs, which, to judge by their likeness to the seated figure from Zerelia, probably belong to the Fourth Period, a peculiar head with a row of holes bored round the top edge behind, and some decoration in red, and an odd shaped fragment covered with white, and so probably of the Third Period, Δ-Σ, p. 302; Figs. 226, 229.

Stone figurines, these include the following types :

Fiddle-shaped figures with long necks, Δ-Σ, Pls. 37. 7, 9, 11, 12, 38. 1-3. Of these only the last is of the Sesklo type, in which the head and neck are represented together as one tapering member gradually widening. In all the others there is a marked division between the head and the neck. Probably the three heads figured by Tsundas (Δ-Σ, Pls. 37. 7, 38. 6, 7) are of this type. This type, though it has more resemblance to the Cycladic type than the Sesklo type, is unlike that of the island figurines in that the neck is long and the features are not plastically rendered. Most probably, as Tsundas suggests, the features were painted.

In addition there are six examples of the stone heads intended for insertion in terra-cotta bodies (Δ-Σ, Pls. 37. 10, 38. 4, 5, Fig. 230  $\alpha$ - $\gamma$ <sup>1</sup>, p. 306), nearly all of which, especially the first, show traces of painting in the style of the  $\Gamma\gamma$  ware. These are very similar to the figurines from House Q at Rakhmani and like them are to be assigned to the Third Period.

<sup>1</sup> These three are inverted in the illustration.

The only other two stone figurines figured by Tsundas (Δ-Σ, Pl. 37, 8, 13) are too small and broken to be of any importance.

*Stone Axes and other Implements.*

Tsundas says that about 550 stone axes and chisels were found at Sesklo and Dhimini, but he does not state the number found at each site. At Dhimini the following types were found:

Type A. This occurred, but Tsundas does not figure any examples.

Type B. Of this Tsundas figures five specimens, Δ-Σ, Pl. 40, 2, 21,

27, 29, 34.

Type C. Tsundas figures four examples, Δ-Σ, Pls. 40, 12, 26, 41, 3, 12.

Type D. No specimen was found.

Type E. Bored celts, four fragments were found.

Chisels, these were found, but Tsundas does not say to what classes they belong and does not figure any.

Of the various types of celts apparently the three types found were equally common, but it would be interesting to know if Type B was less common than the other two.

Club heads, twelve were found, of which only two are complete, Δ-Σ, pp. 322 ff., Figs. 246-248.

Arrow heads, ten were found, all of flint, Δ-Σ, Pl. 42, 1, 3-10. They are all of the hafted type, which Tsundas thinks began in the Second Period, but continued in use later.

Flint and Obsidian, many flakes of both apparently were found, but Tsundas gives no details, except that he says four cores of flint from which knives were struck off were found.

Sling bullets, two were found.

Other stone implements, such as pounders, rubbers, saddle querns, mortars, etc., were apparently found during the excavations here, but no particulars about them are given by Tsundas.

*Miscellaneous Objects.*

*Bone and Horn.* Tsundas says that implements of these materials were found at Dhimini, though in less quantity than at Sesklo, but he does not give any details. He only mentions two horn hafts, Δ-Σ, p. 316, Figs. 241, 243, see p. 24. Some bone ornaments were found in Tomb M4.

*Stone, etc.* Buttons, Tsundas figures three (Δ-Σ, Pl. 43, 1, 2, 6), the first two are of the Second Period, while the date of the third is doubtful.

Pendants, three pierced pendants of stone are figured by Tsundas, Δ-Σ, Pl. 43, 8-10. The first of them is noticeable, because it has the same shape as the gold pendant from Sesklo, which belongs to the First Period. Possibly some of the other pendants, the provenance of which is not given by Tsundas, are from Dhimini, Δ-Σ, Pl. 43, 11-21, 25, 31. Similarly the beads (Δ-Σ, Pl. 43, 26-30) and the pierced discs of stone, the provenance of which is not given, may also have been found at Dhimini. But twenty-five sard beads were found in Tomb 61. Some other stone beads, etc., were found in Tomb M4.

*Shell.* Bracelets, three fragments (Δ-Σ, Pl. 46, 5-6).

*Terra-cotta.* Whorls, about 500 in all, were found at Sesklo and Dhimini, but we do not know how many were found at each site. As at Sesklo, the flat examples, which are often decorated ( $\Delta-\Sigma$ , Pl. 44, 1, 2, 4-10), belong to the two Neolithic Periods, and the tall, conical (Tomb 57), or double conical belong to the Third and Fourth Periods. But some conical types ( $\Delta-\Sigma$ , Pl. 44, 15) occur both in the Neolithic and in the Chalcolithic Periods.

Sling bullets, many were found, but not so many as at Sesklo, where 110 in all were found. Consequently, Tsundas believes that they belong to the two Neolithic Periods.

*Glass paste.* ornaments of this material were found in Tombs M3 and M4.

*Corn, etc.* In deposit of the Second or the succeeding Period were found ( $\Delta-\Sigma$ , p. 360) wheat, barley, figs, pears, peas, and an almond husk.

#### Metal.

*Bronze*, a small piece of wire was found,  $\Delta-\Sigma$ , p. 354.

Bronze arrow heads were found in Tomb M4, and some gilt bronze wire in Tomb 61.

*Gold*, apart from the gold ornaments found in Tombs M3 and M4 none was found.

*Silver*, four beads were found in Tomb 61.

#### D. PIRGHOS.

To the north of Sesklo, and on the hills that bound the valley to the north, is a peak on which are the remains of a square building of the classical period. This was probably a watch tower and, to judge by the pottery found round it, dates from the fifth or fourth century B.C. The stratum belonging to it was however only about 30 m. thick, and below it lay a prehistoric deposit (p. 8, no. 4). The upper part of this apparently belongs to the Third and Fourth Periods, below which remains of the Second Period were found at a depth of 70 m. from the surface. Tsundas however did not carry his trial pits right down to virgin soil, so that we do not know the earliest ware at this site, but one specimen of A<sub>3a</sub> was found ( $\Delta-\Sigma$ , p. 175). Other wares found here include B<sub>5a</sub>, B<sub>5B</sub> (a specimen of the four-sided spit supports), B<sub>5Y</sub>, wheel-made pottery (Minyan?), and two sherds with geometric patterns in matt black. Other prehistoric finds were a pierced boar's tooth ( $\Delta-\Sigma$ , Pl. 46, 13), about forty clay whorls, twenty-three wedge-shaped celts (presumably of Type B), and two spear heads of flint, which belong to the Second Period,  $\Delta-\Sigma$ , Pl. 42, 16, p. 326. Six statuettes ( $\Delta-\Sigma$ , pp. 283, 286, 300, Fig. 225) were also found, five of stone and one of terra-cotta. The latter is of the shapeless type with a conventional rendering of the head and arms: it is covered with white paint and thus probably belongs to the Third Period, cf. Τιγ, Τιδ. Two of the stone examples are unpainted heads, like those from House Q at Rakhmani ( $\Delta-\Sigma$ , p. 288).

## CHAPTER V

### CENTRAL THESSALY

#### A. TSANGLI.

The mound of Tsangli (p. 9, no. 38), which is locally known as Karaman Tsair<sup>1</sup> Maghula (Καραμάν Τσαϊρ Μαγούλα), lies in the centre of the valley which runs along a small tributary of the Enipeus from Pharsalus towards Pherae. In the hills, half an hour to the south, lies the small mining village of Tsangli, which is overshadowed by the Greek acropolis usually identified as Eretria in Phthiotis<sup>2</sup>. At the foot of the mound on the west rises a spring. The discovery of prehistoric objects was first made here when the contractor, who built the light line that runs down from the chrome mine at Tsangli to a siding on the Thessalian Railway near Aivali station, dug away about an eighth of the mound to obtain earth for the embankment. Of the finds then made the greater part have been presented by one of the owners of the estate, Mr Margharitis Apostolidhis, to the Volos Museum, others are still in the possession of the other owner, Mr Periklis Apostolidhis. Subsequently, in 1903, Tsundis<sup>3</sup>, with the assistance of Mr Yiannopoulos<sup>4</sup> of Almiros, made some trial excavations here. The finds then made are in the National Museum at Athens. In the Almiros Museum are other objects found on the site by peasants. We excavated here in March and April 1910, and the finds are now in the Museum at Volos.

In addition to sinking a row of shafts through the deposit down to virgin soil, we also cleared two small areas on the east side of the mound, where earth had been dug away by the contractor, and found the remains of houses of the First Period. A levelling instrument was in use throughout the excavation. The whole mound is over two hundred metres long and about two hundred metres wide, and is one of the largest in the district. The deposit is about ten metres thick, of which half is of the First Period. In this mound also, as in the others, successive layers of burnt rubbish appeared, which indicated the remains of settlements destroyed by fire. The study of these was rendered easier by the examination of the sides of the excavation where the contractor had dug earth away, and also by the discovery of the houses. Consequently we are enabled to divide the total deposit into eight strata, which enable the sequence of the pottery to be more clearly shown. None of the previous excavations at the mound had been carried down to virgin soil.

<sup>1</sup> This name is the Turkish *Qahraman* *chayir* (conqueror's meadow).

<sup>2</sup> *Ath. Mitt.* 1906, p. 18.

<sup>3</sup> Δ. Σ., p. 9.

<sup>4</sup> *Ath. Mitt.* 1910, pp. 61 ff.



FIG. 48. Vases (A1) from Tsangli. *A* is from House 7 (scale 1:3).

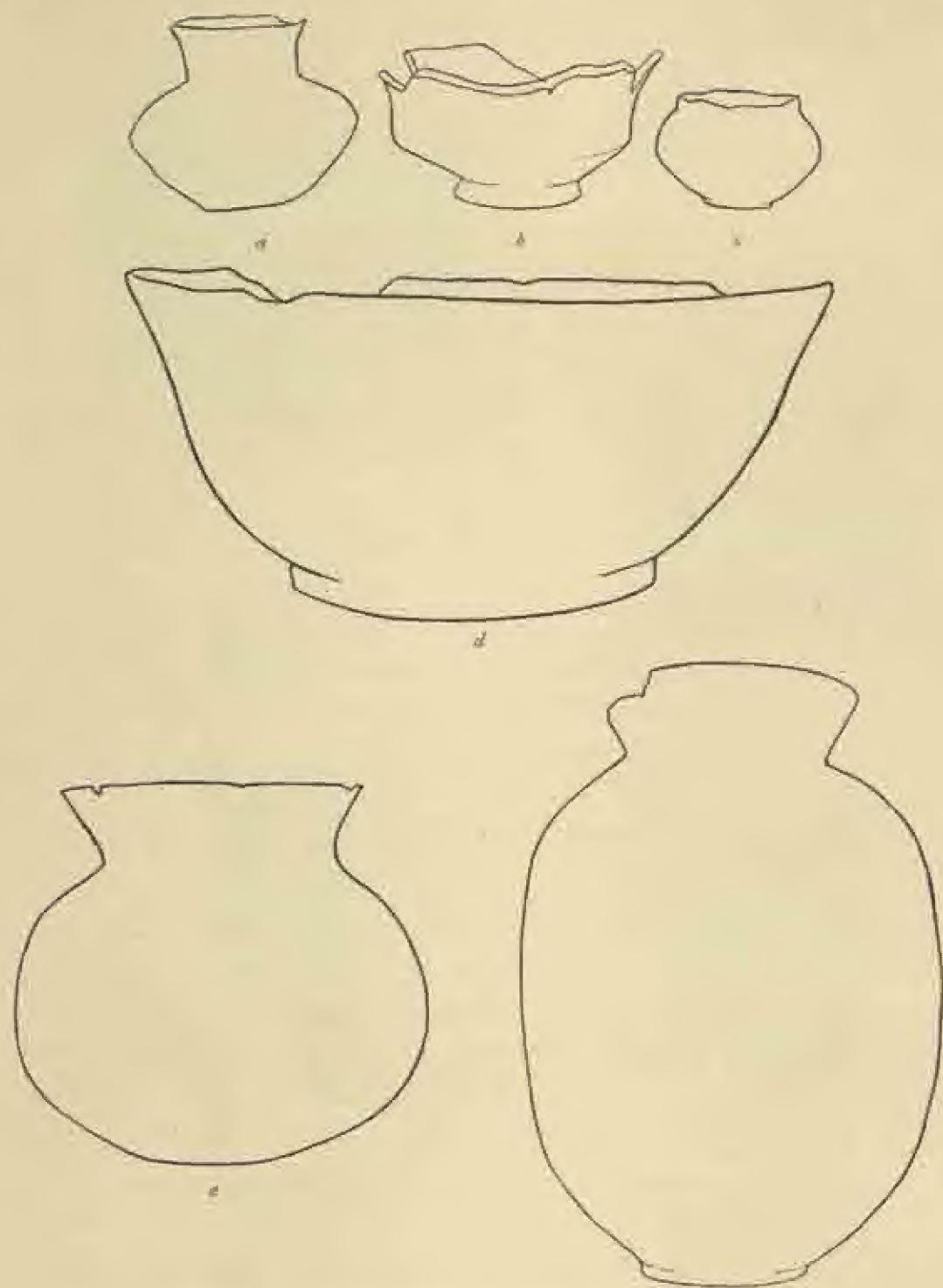


FIG. 41. Vases (A1) from House 2, Tsangli (scale a-c, 1:4, f 1:8).



FIG. 42. Vases from Tsangli, *a* (A3a), *b-d* (*A1*) from House *P*; *e* (A3g) from House *T*  
(scale *a-d*, 1:4; *e*, 1:2).

## Pottery.

A1. Monochrome red ware: the biscuit is usually red, sometimes the deep red colour of the surface seems to be due to the application of some pigment. The small vases are well made, thin, and polished. The only decoration consists of round or oblong knobs on the handles or on the body, which do not seem to have any definite scheme or arrangement. Large coarse pots, probably store jars, since pithoi did not exist in the First Period, were found in Houses *P* and *T*, see Figs. 41, 42. The typical shape of the fine red variety of this ware is (*a*) a wide, open dish with incurving sides and splayed lips on high bases and tubular ribbon handles (Fig. 40 *e-g*). Fragments of this type were very common, and the only decoration consists of the knobs mentioned, but some fragments are partly decorated in the style of A3e. Other shapes are, (*b*) bell-shaped mugs with ribbon handles set low down (Fig. 40 *c*), some have a raised base like the best specimen from House *T* (Fig. 40 *h*), which also is partly decorated in the A3e style, but as a rule there is no raised base, (*c*) open bowls with round bodies and, rarely, a raised rim, there are many varieties, and the majority probably had a raised base (Fig. 40 *b*), (*d*) small, narrow-necked bowls with low rims (Fig. 41 *a, c*) and possibly raised bases, there are several sizes, cf. Fig. 40 *a*, from I, and Fig. 42 *c*, from House *P* (IV), fragments from III seem to show a larger and wider body, and one from IV seems to have had a ribbon handle on the shoulder, (*e*) jugs, with large bodies and high necks, and occasionally with spouts, (*f*) rectangular dishes on four legs, legs only found in I-III, but from IV, House *P*, there is a perfect example, Fig. 42 *d*, in I there is a large piece of a plate on three legs which seem to have been set towards the centre underneath and not on the edge, (*g*) small, handleless cups, one in I, several in III, and none in IV, (*h*) wide, open dishes with almost vertical sides<sup>1</sup> (Fig. 41 *d*), this resembles the typical shape of A3B, (*i*) large bodied jars (unpolished) with tall narrow necks, five of different shapes found in House *T*, another from House *P*, see Figs. 41 *e, f*, 42 *b*, 60 *j*, these were probably store jars, (*k*) box-like vases, there were three fragments, the true shape of which cannot be determined, one has slashed ornament on a projecting rim, (*l*) dippers or ladles, several from III, see Fig. 40 *d*.

Amongst odds and ends there are a fragment of an open jar from IV with a loop handle on the rim, and from II a small handle, little larger than a string hole, with the ends slashed to make it bite when applied to the body of the vase.

General remarks. It must be remembered that raised bases, such as are seen in Figs. 40-42, are typical of this ware, and that most of the above shapes are to be found, except of course (*f*), both with and without them. On two such bases, one from IV and the other given by Mr M. Apostolidhis, are the incised marks seen in Fig. 43.

This ware is very common in I, II, III and IV, but rare in V.

Pithoi. As a rule, pithoi do not occur in the First Period, but in III we found one, and in IV, in House *T*, five fragments of them with raised, slashed ornament round the neck.

<sup>1</sup> Two examples given by Mr M. Apostolidhis have round saucer-like bodies.

<sup>2</sup> One specimen found in the remains of a burnt house in IV contained a quantity of red ochre.

A2. Incised ware. None was found, but from II there is a piece of a large jar with a narrow neck. This has a row of slashes round the body, cf. the fragments from Tsani, p. 136, and is unpolished.

A3a. White on red ware. The fabric is fine, and the patterns are applied in matt white paint directly to the biscuit, which is usually polished. The shapes are (a) bell-shaped mugs, corresponding to shape (b) of A1, the most important fragment is decorated with round knobs around which are circles with projecting rays in white, (b) large jars decorated with raised ribs along which run white lines. All the other fragments are small and seem to be from bowls or jars. With this ware may also be classed the large vase from

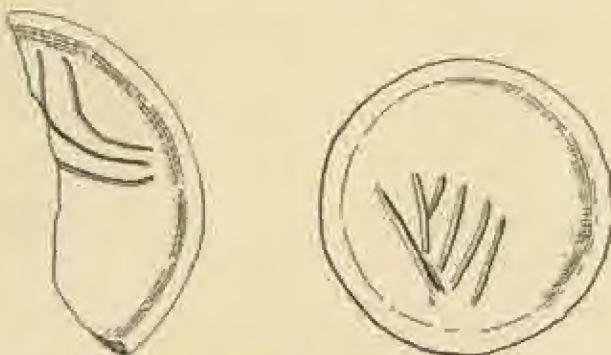


FIG. 43. Tsangli: incised marks on vases (scale 1:2).

House Z (IV), since it was found with A1 and A3β vases. This is a large jar which probably had a high narrow neck: the vase has been burnt, and so the surface now varies in colour from red-brown to black (Fig. 44 a). The pattern is an elaborate zigzag in matt white, cf. Δ-Σ, p. 175, Fig. 83, from Sesklo. Another burnt jug from House P (IV), see Fig. 42 a, may also be classed with this, although its surface is now grey-black, for it has no likeness to Fig. 41. Of this ware there was one piece in I, none in II, nine pieces in III, several in IV, three in V, and one in VI.

A3β. Red on white ware. The bulk of the ware of this class from Tsangli belongs to the first or south-east Thessalian category, and is closely related to that from Sesklo and Zerelia. The principal shape is (a) the typical wide, open dish with a flat bottom and almost vertical sides, which tend to splay out towards the rim, see Figs. 44 b, 45. The patterns<sup>1</sup> fall into three groups, (i) irregular wavy lines drawn rather at random, cf. Δ-Σ, Fig. 92, p. 184; not much of this type of pattern, which is characteristic of Sesklo, was found (Fig. 47 l, m, p). The slip varies from yellowish-white to pale orange-red in colour, and in some fragments the paint seems to be applied directly to the biscuit, which varies in colour according to the firing. Such fragments should be grouped rather under A3γ. It is to be noted that the vases with this pattern are usually of one shape, see Fig. 31, p. 59, cf. Δ-Σ, p. 180, Fig. 84 e. The second group, the commonest and most typical of Tsangli, consists of patterns like Figs. 44-46, and varieties of them. These resemble the common pattern of Zerelia (Fig. 47 f, n), but can always be distinguished from them, in

<sup>1</sup> Cf. Δ-Σ, p. 187.



a (scale 1 : 4)



b (scale 1 : 3)



c (scale 1 : 3)



d (scale 1 : 3)

FIG. 44. Vases (a, b, c, d, e) from Tsangli; a, b are from House T.

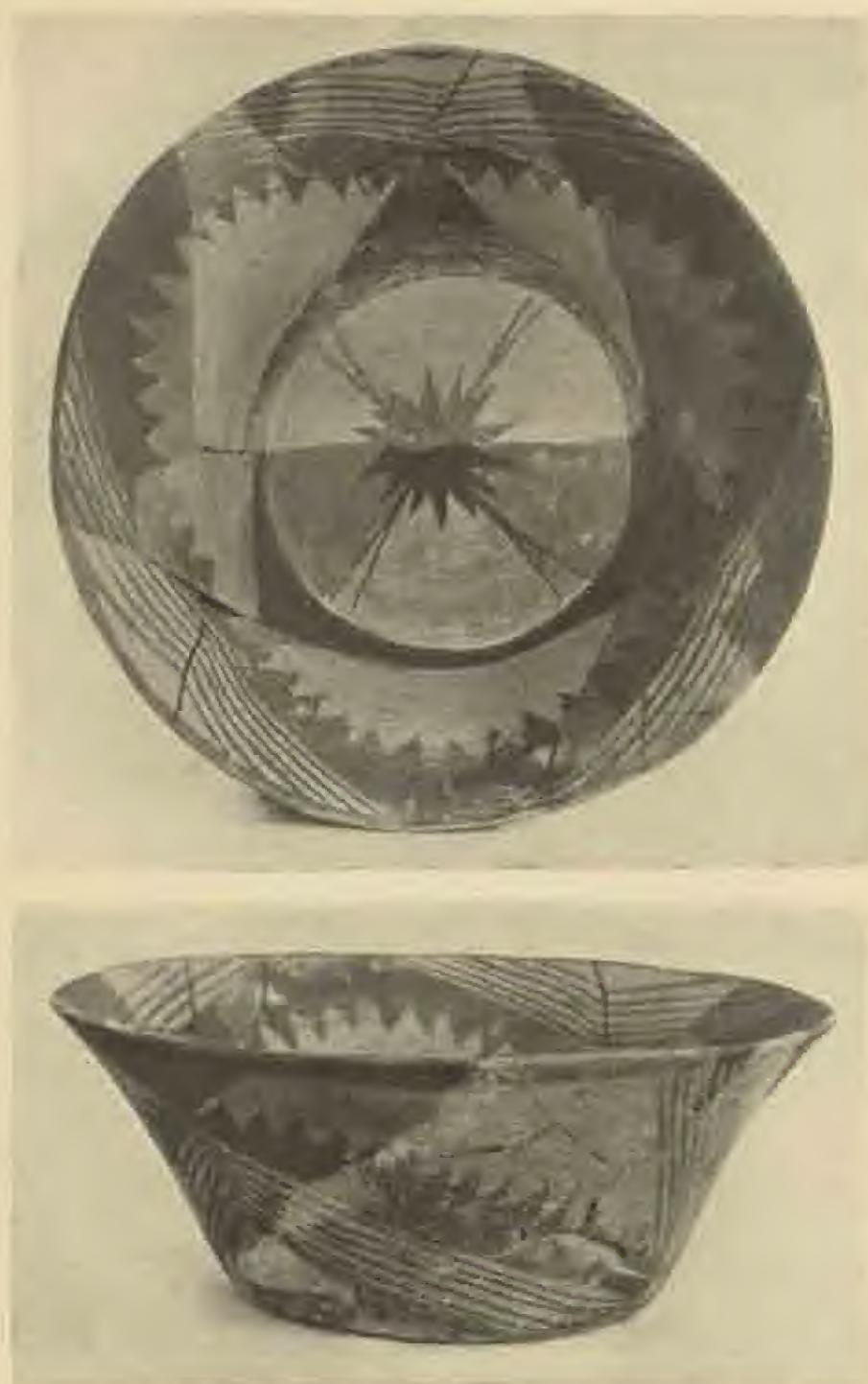


FIG. 45. View (A.32) from Tsangli, House 7; restored (scale 1:9).



FIG. 46. Shards (A39) from Tsangli. (scale 2 : 3)

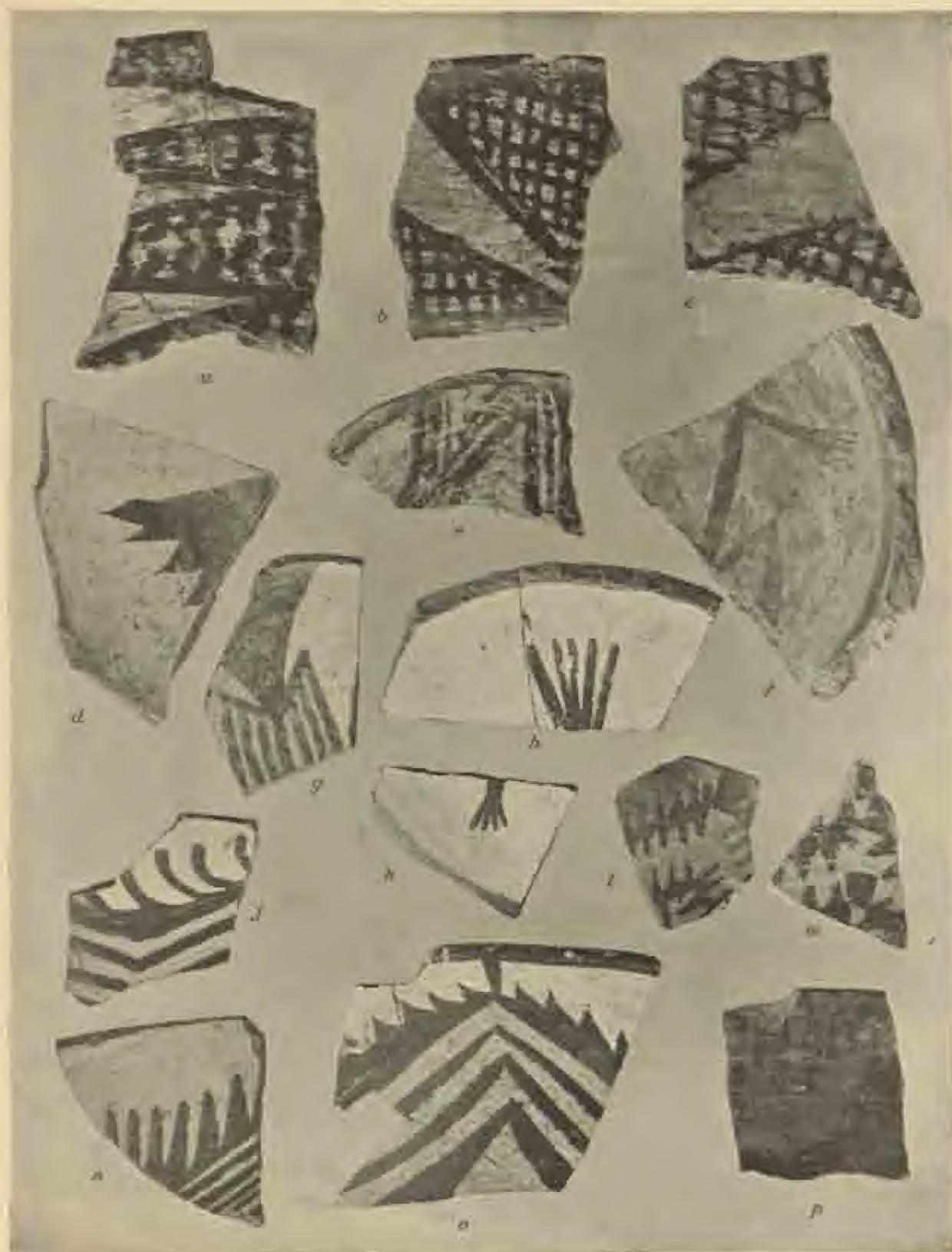


FIG. 47. Sherds (A35) from Tsangli (scale 2:3).

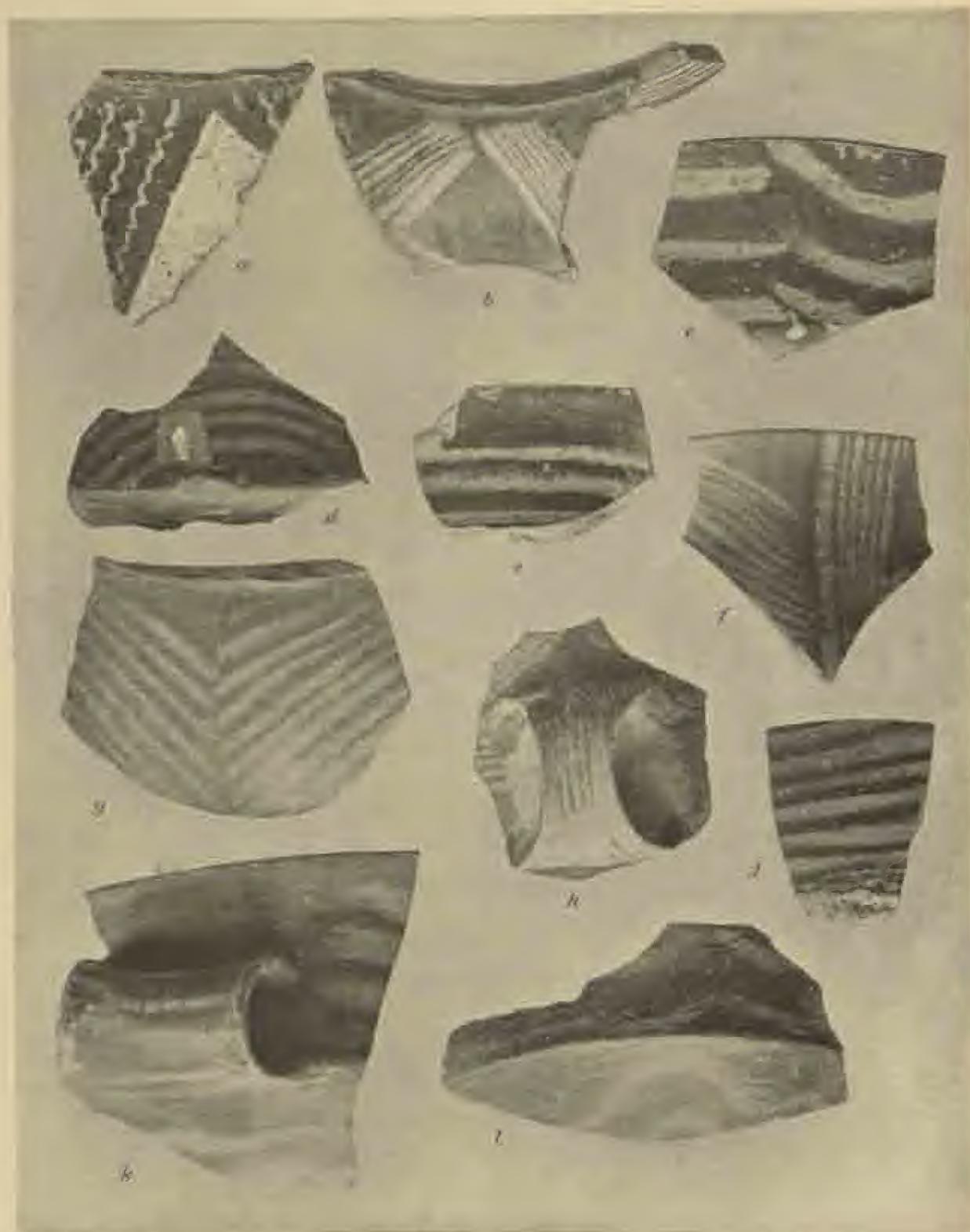


FIG. 48. Shards (A-J) from Tsangli (scale 2:3).



FIG. 43. Vases (A.Y.) from Tsangli: a (c) from House P (scale 1:3).



d (B3).

e (B3).

f (B3).



d (B3a).

e (B3a).

f (B3a).



g (B3).

h (B3).

i (B3).

FIG. 50. Tsangli: stems of "fruitbaskets" etc. (scale 1:3).

that here the projecting rays are spiked and curved. The last group consists of miscellaneous linear patterns, typical examples are shown in Figs. 46 *k, n*, 47 *a-h, k*. Other rarer shapes are (*b*) shallow plates on high feet, like those from Lianokladhi (Fig. 120, p. 176) and Tsani, a few pieces in III and one in IV, (*c*) wide bowls with narrow necks and low rims, a few examples in III and IV, (*d*) vases on three or four legs, no complete example was found, but a restored drawing of one is shown in Fig. 57 *g*, they occur in III and IV. Exceptional shapes are the following: (*e*) a tall, narrow-necked jug with a small, ribbon handle on each side, and a loop handle running from the shoulder right above the neck, from House *T*, IV (Fig. 42 *c*), (*f*) wide, open, shallow bowls with a splayed lip and on the body a small, vertical, ribbon handle, there is one from House *P* (IV), and the example shown in Fig. 44 *d* was given by Mr M. Apostolidhis, (*g*) large bowl with a high base, see Fig. 44 *c*, the only specimen known, which was given by Mr M. Apostolidhis, (*h*) large, open bowl on a high foot, covered outside with a plain white slip, from House *T* (IV), this is of the same shape as a plain bowl from V, see Figs. 41 *b*, 58 *d*.

Amongst odds and ends there are a triangular spout, a loop handle from the rim of a vase, and two or three pieces of a peculiar box-shaped vase: all are from III.

This category of A3B was rare in I, less rare in II, very common in III, less common in IV, rare in V, and there were twenty-one sherds in VI, five in VII, and six in VIII. The sherds of this ware found in the later strata are probably only casual finds, for when, as in this case, a ware is so common in any one stratum it is only to be expected that stray sherds of it would be found in the soil of all later strata.

Of the second, or West Thessalian, category there was one sherd of the solid style in II and three in III, and two of the linear style in IV.

A3y. Red on red ware. Two small sherds in III from jugs and bowls, but see above under A3B, first category, Sesklo style.

A3δ. Red on white ware, Lianokladhi style. In III there were two small pieces and a ribbon handle, in IV two pieces of rims and one odd piece with the Lianokladhi wavy line pattern inside in the scraped technique, and outside a linear pattern like those on the later red on white ware from Tsani.

A3ε. Red-brown on buff ware, Figs. 48, 49. The technique of this has been described above in Chapter II. In it we find the following shapes: (*a*) wide dishes on high bases, like the typical shape of A1 (Fig. 48 *c, d, l*), (*b*) wide-bodied bowls or jars with narrow necks and raised bases, the three examples in Fig. 49 *a, c, d*, were given by Mr M. Apostolidhis, (*c*) bell-shaped mugs with ribbon handles, cf. Fig. 49 *b* from House *P*, (*d*) wide, open, shallow bowls with a splayed lip and ribbon handles, like shape (*f*) of A3B, several pieces of these were found in House *P*, Fig. 48 *b, h, k*. This ware is moderately common in III and IV, there are ten sherds in V and five in VI, and none in any other stratum.

B1. See F3.

B2. Incised ware. Very few sherds were found that could be classed as this and in every case with F2. There were three such sherds in V and three in VIII. The peculiar legged vase found in V, Fig. 50 *a*, and two fragments

of legs from the same stratum do not seem to belong either to B2 or P2. On the other hand they resemble the legged vases which Dr Sotiriadhis has found in Phocis, see Chapter IX, Fig. 142*f*. It is possible then that they may be importations from the south.

B3a. Dhimini ware. Very little was found<sup>1</sup>. Some was found in V, VI and VII, and there were about twenty stray sherds in VIII. There is one piece of the first category in VI, but otherwise it is all of the second category, and with three exceptions, one each in V, VI and VII, of the black on red style. Only two shapes occur, (*a*) the commonest, the typical, wide, deep bowl narrowing to a small, flat base, painted inside and out, and with projecting knobs bored for string holes, (*b*) a shallow dish on a tall, tapering stand which has diamond-shaped holes cut in its sides, the so-called fruitstand type, of this there were two specimens in V, Fig. 50*d*.

B3b. Three-colour ware. Very little was found, there being six sherds in V, thirteen in VI, seven in VII and three in VIII. The only fragments the shape of which can be determined are pieces of fruitstands. The better sherds are illustrated in Pl. II 1-3.



FIG. 51. Tsangli, fruitstand fragment (B3b), scale 2:1.

B3y. Three-colour ware with black and orange-red patterns on a white or cream slip. Four shapes are distinguishable, (*a*) fruitstands, unfortunately there is no complete example, but the fragments in Pl. II 5, Fig. 50*f, j* give a good idea of this class<sup>2</sup>, the fine piece from the top of a fruitstand painted inside and out was given by Mr M. Apostolidhis (Fig. 51), (*b*) wide, handleless dishes with tall, outcurving sides and apparently concave bottoms, cf. Fig. 57*f*, (*c*) small cups with loop handles and painted inside and out, Pl. II 4, (*d*) open bowls with low rims and curving in sharply to the bottom, this is like Δ-Σ, Pl. 6. 3. Some few pieces with black patterns on a white slip probably belong to this class, since it is not to be expected that every small fragment would show patterns both in red and black. This ware was rare in V, common in VI, rare in VII and VIII.

B3δ. Black on red ware. Only small fragments of this ware have any likeness to the second category of B3a. The biscuit varies in colour from red to

<sup>1</sup> Tsundas found very little, 2-2, p. 221.

<sup>2</sup> Tsundas also illustrates a good piece from this site, 2-2, p. 227, Fig. 122.

pale red-brown or buff. The patterns are linear, comprising triangles, belts of parallel lines in zigzags, and wavy lines. We can determine three main shapes, (a) large-bodied jugs with high necks and handles rising from the neck to the shoulder, see Fig. 54 c, d, (b) wide, handleless bowls with tall, outcurving sides and apparently concave bottoms, Fig. 57 f, (c) fruitstands, Fig. 50 h. When the clay is true deep red the ware is well polished, but the specimens with pale red-brown clay are not polished and are decorated with matt paint. It is to be noted that spirals never occur, and that the vases are as a rule painted outside only. This ware is common in V and VI: there are seven sherds in III, nineteen in IV and eight in VIII.

B3e. Black on buff ware. The black paint, usually matt, is applied directly to the biscuit, which varies much in colour, and sometimes approaches closely to the paler shades of B3d. There are the following shapes, (a) tumblers, many pieces, the two best from V and VI are shown in Fig. 54 a, b, the former is remarkable for the attempt to render a human face. (b) fruitstands, which sometimes have a hollow and sometimes a solid stem, Figs. 50 c, 53 a, d, (c) wide, open mugs or jugs, similar to shape (a) of B3d, there is a vertical ribbon handle reaching from the rim to the point where the body bends in sharply to the bottom, Figs. 53 b, c, 54 c, d, (d) small dishes with almost vertical sides and a flat bottom. The patterns are usually linear: isolated wavy lines are very prominent, chequer work patterns and belts of zigzag parallel lines bordered by broad lines commonly occur (Fig. 53). It is to be noted that the patterns, like those of B3d, do not by any means cover the whole surface of the vase. The tumbler with the representation of a human face on both sides is a unique example.

There are six sherds of this ware in IV: it is common in V and VI, rare in VII and very rare in VIII.

B3f. Three-colour ware with black and red patterns on a white slip. This is closely allied to A3β, especially the later style of the West Thessalian category, and is to be separated from B3g by the fact that the patterns are designs in red on white helped out by the addition of a little black, Pl. III. There are the following shapes: (a) small jars, see Pl. III: from V, (b) small cups with splaying sides and flat bottoms, (c) wide, open bowls, (d) narrow-necked jars with high splayed lips; the only example is Fig. 52, given by Mr M. Apostolidhis, (e) vases on legs, there is one fragment of a leg. The majority of the fragments are too small for any degree of certainty as to the exact shape. It is to be noted that in some cases a red line is crossed by a wavy black line or outlined by thin black lines. The black usually has rather a brown shade. Some pieces which clearly seem to belong to this class only show one of the two colours, noticeably two sherds from III with patterns in brown-black.

This ware was commonest in V: there are two sherds from III, ten from IV, six from VI and two each from VII and VIII.

F1α. White on black or brown polished ware<sup>1</sup>. The principal shapes are: (a) fruitstands, Fig. 50 e, (b) wide-lipped bowls narrowing sharply towards the bottom, Fig. 58 e from V, (c) wide-necked and low-rimmed jars narrowing sharply towards the bottom, cf. Δ-Σ, p. 238, Fig. 135, occasionally with handles

<sup>1</sup> Found some here, Δ-Σ, pp. 238 ff., Figs. 134-136, p. 242, Fig. 142.

on the shoulder, (a) jugs (?) with vertical handles running from lip to shoulder (Fig. 55 *a*). But since the bowl shown in Fig. 58 *c* is the most complete example it is not easy to determine the shapes. The patterns (Fig. 55 *a-f*) are always linear, usually parallel lines arranged in triangles or zigzags; but wavy lines and star or circle designs also occur<sup>1</sup>. The pieces which have a black surface are well made and polished, but those which have a brown surface are coarser.

This ware was rare in IV, moderately common in V, less common in VI, rare in VII and very rare in VIII.

Fig. 52. Polished ware with black patterns on a grey ground rendered by scraping. The few sherds found ranged from IV-VI. See Fig. 55 *n-p*.



FIG. 52. Vase (636) from Tsangli (scale 1/2).

Fig. 53. Rippled or ribbed ware, see Fig. 55 *m*. The patterns are linear and do not include curved lines or circles. This is very rare: there were three sherds each in V, VI and VII. There is a bowl of shape (b) of Fig. 51, given by Mr. M. Apostolidhis, which is partly decorated in this style, and Tsundas also found a few fragments here. Δ-Σ, p. 239, Figs. 137-139.

Fig. 54. Grey on grey ware (cf. Pl. IV 5, 6). There are two shapes: (a) bell-shaped mugs with vertical ribbon handles set low down, Fig. 57 *a, c, e*, (b) bowls with wide bodies<sup>2</sup>, high narrow necks and low bases (Fig. 57 *b, d*). These may have had handles extending from the rim to the shoulder. Two

<sup>1</sup> The patterns were painted over with Chinese white to make them show clearly when photographed.

<sup>2</sup> Tsundas found a few sherds, Δ-Σ, p. 240, Figs. 140, 141.  
CT Δ-Σ, p. 243, Fig. 144.

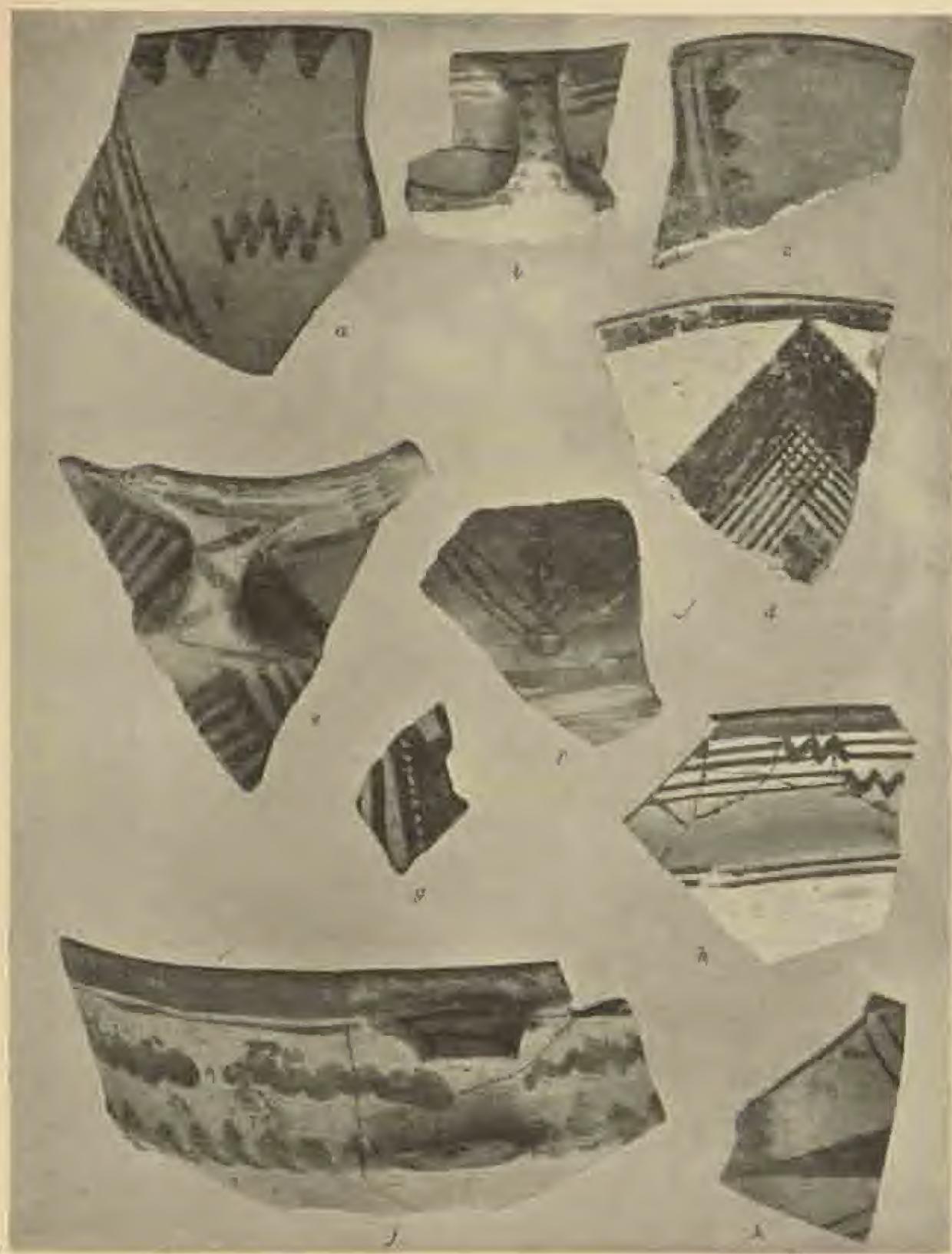


FIG. 53. Tsangli: shards of B34 ware (scale 2 : 3).



FIG. 54. Vases (63a) from Tsangli (scale 2:5).

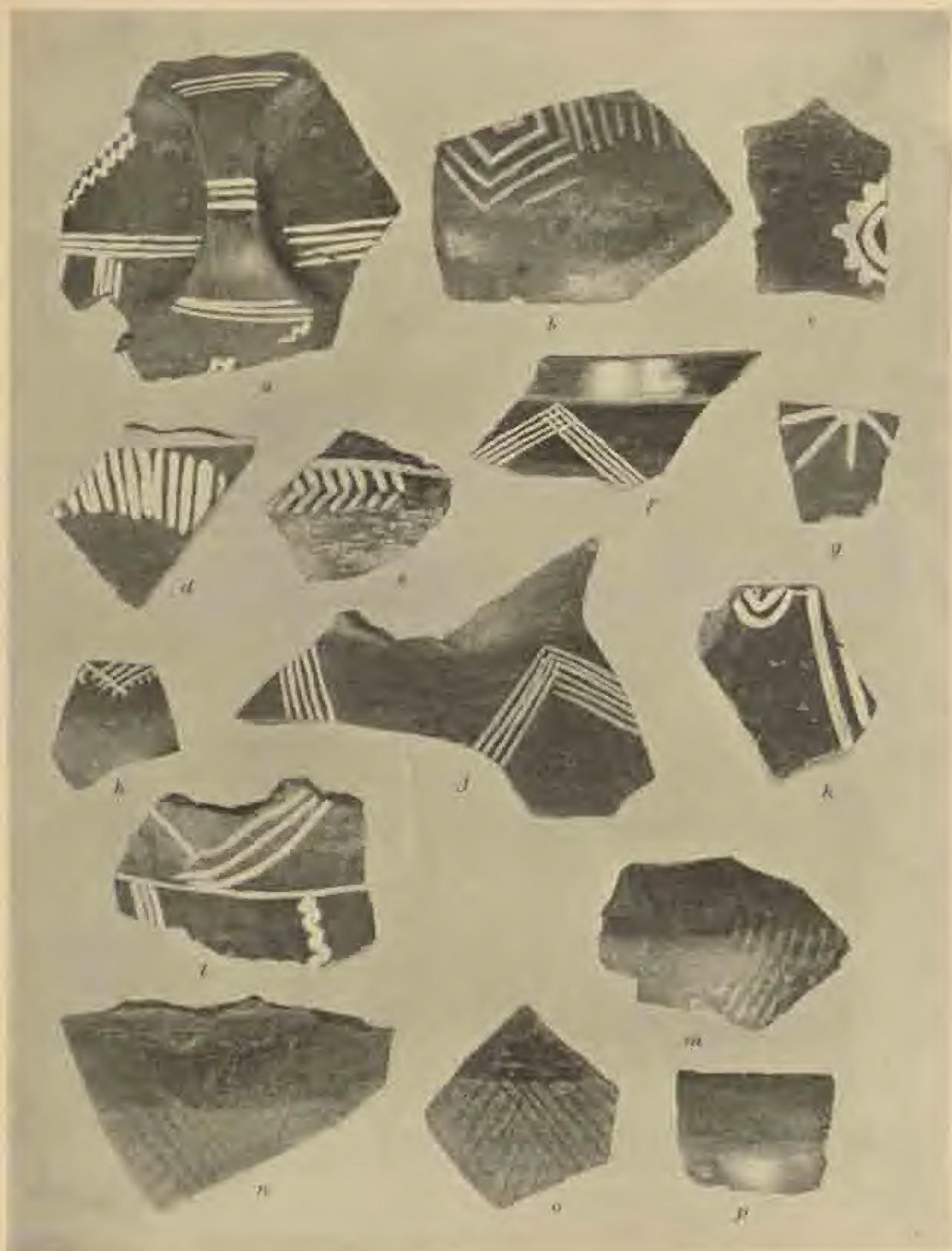


FIG. 53. Shards (a-r, t) (100); (u-p) (100); (m) (100) from Tsangli (scale 1:5).

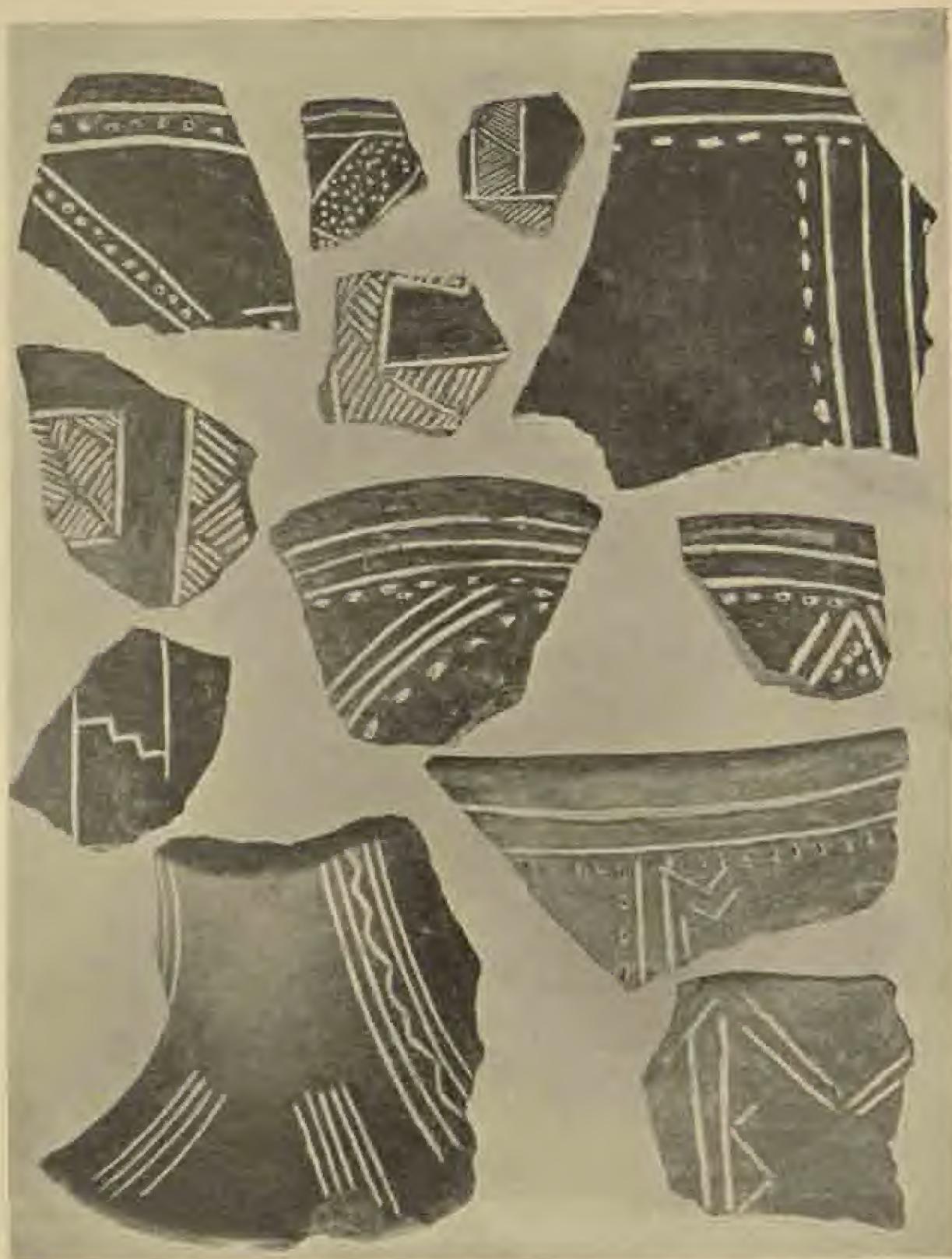


FIG. 36. Incised ware (D) from Tsangli (scale 2:3).



FIG. 32. Tsangli: a-c T/3 (scale 1:2); f B/3 (scale 1:4); e A/3 (scale 1:1); d is from House T.

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Fig. 58. 1. Scale 1:10.



Fig. 58. 2. Scale 1:3.



Fig. 58. 3. Scale 1:4.



Fig. 58. 4. Scale 1:2.

FIG. 58. Vases from Tsangli, *Shih-ta*, *Chia-pu*, *Min-yang* *Walled* *City*.

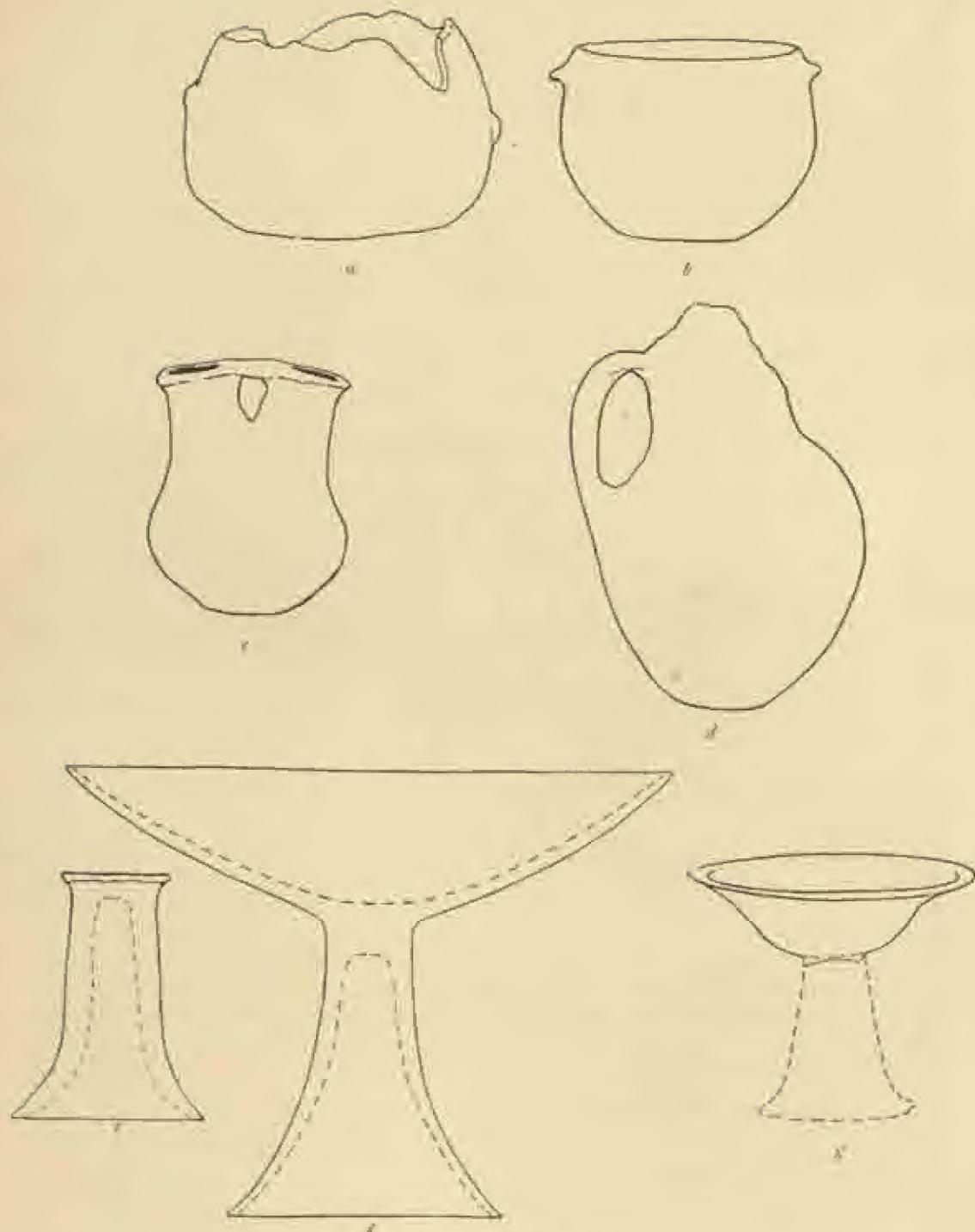


FIG. 59. Vases from Tsangli, T3 (scale 1:4).

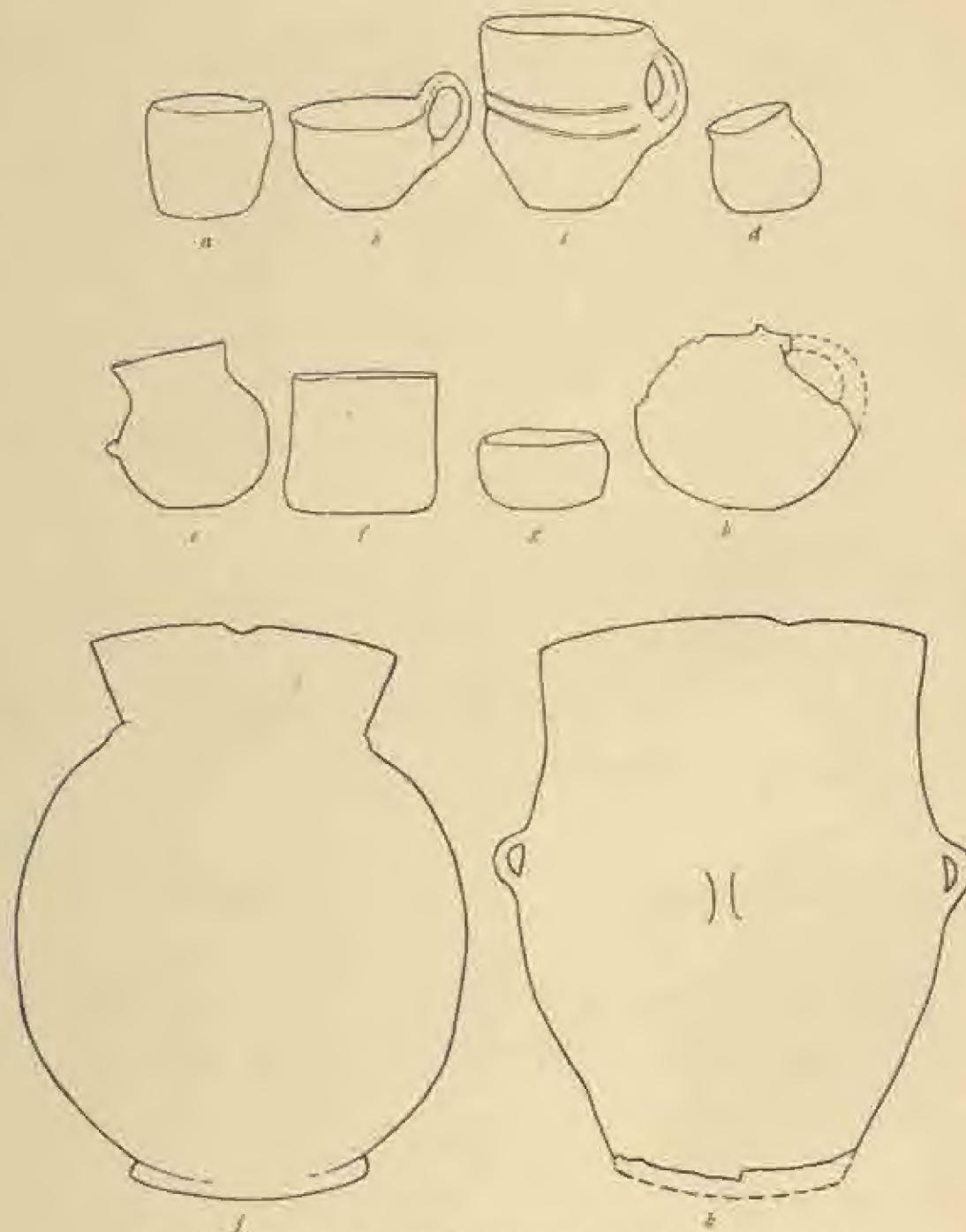


FIG. 60. Vases (T3) from Tsangli (scale: a-h 1:4, j 1:6, k about 1:3).

large fragments of the second shape were found in House *T* together with red-on-white ware, a fact that confirms the relative date of this ware as shown by the stratification at Tsani and here. The patterns are simple and linear, usually consisting of oblique and vertical lines, but a chessboard pattern occurs and there are several instances of a straight line covered by a wavy one. The better patterns are seen in Fig. 57 *a-c*. The polishing of this ware is slight. It seems to have been popular and valued, for many pieces, e.g. Fig. 57 *c*, have holes bored along the edges of old breaks. It thus appears that they were broken and mended in antiquity by tying together with strings or sinews. A few pieces show pairs of string holes in the lip.

This ware is common in IV and V, and rare in VI, there are ten sherds in III and about twelve in VII. Tsundas<sup>1</sup> says he found this ware only here and at Mesiani Maghula.

*T<sub>1</sub>y.* Crusted ware. Tsundas ( $\Delta-\Sigma$ , p. 244) found one sherd here.

*T<sub>2</sub>.* Black and brown incised ware. Like B<sub>2</sub>, with which it occurred, always polished, but not very well. The principal shapes are: (*a*) fruitstands (Fig. 50 *g*), (*b*) wide, open, brimless bowls narrowing in to the base, which is flat, (*c*) wide, open, rimless bowls bending in sharply to a flat base, some of these have necks and vertical ribbon handles on the shoulder. Unfortunately the small size of the fragments makes it impossible to determine the shape with any accuracy. The patterns consist of combinations of lines and dots, see Fig. 56<sup>2</sup>. Curved lines are not common, and it should be noted that only a very small part of the surface is decorated, and that the pattern often divides the surface into panels. The incisions were filled with white. Odd fragments of this ware include a two-handled cup and a fragment from the leg of a legged vase from VII, and from VI part of an oblong vase with legs and on top some round receptacle, which might be called a "table of offerings."

This ware was fairly common in V, VI and VII, but there were only nine sherds in VIII.

Tsundas found a fair amount of this ware here,  $\Delta-\Sigma$ , pp. 251 ff., Figs. 154-160.

*T<sub>3</sub>* and *B<sub>1</sub>*. These two groups are classed together, since *B<sub>1</sub>* has no marked characteristics to separate it from any other monochrome ware. Also with the monochrome ware hereafter described we found sherds of all the B wares and of *T<sub>1a1</sub>*, *T<sub>1a2</sub>*, *T<sub>1a3</sub>* and *T<sub>1b</sub>*. The only piece that can really be classed as *B<sub>1</sub>* is a fragment of a bowl with a horned projection on the rim, like those so common in *B<sub>3a</sub>*, cf. also the pottery of the Second Period from Rakhmani. In general the monochrome ware of the later strata at Tsangli is coarse and not often polished, and large, thick pots are common, especially in VIII.

*T<sub>3a</sub>.* Two-handled cups, these occurred only in VIII, where several were found. In some examples the handles are much longer and project higher above the rim than usual. There are also some examples given by Mr M. Apostolidhis.

*T<sub>3b</sub>.* Shallow bowls with raking handles, a few examples from VIII.

<sup>1</sup>  $\Delta-\Sigma$ , p. 243.

<sup>2</sup> For the purposes of photography the incisions were painted over with Chinese white where the

original filling had fallen out, in order to bring out the patterns clearly.

Fig. 60 *a*. Askoi, there is one example amongst the pots given by Mr M. Apostolidhis, but, of course, we do not know to what stratum it belongs. Fig. 60 *b*.

Fig. 60. Large-bodied jars with narrow necks and bases, see Fig. 58 *a* from VII, and there is another example from the same stratum. Just above the widest part of the body are two vertical ribbon handles and two-horned lugs placed alternately.

Fig. 61. Wide, open bowls with flat bottoms, splayed lips and loop handles: one or two examples from VIII.

Fig. 62. Small jars with narrow necks and sometimes string holes on the lip or body, complete examples from VI and VII. Fig. 61 *b*.

Fig. 63. Dishes with flat bottoms and straight sides splaying out, and sometimes with horns or knobs on the rim, a common shape from V-VIII.

Fig. 64. Small, handleless cups, examples from V, VI and VII. Figs. 60 *d*, 61 *a*.

Fig. 65. Fruitsstands, shallow round dishes on high, tapering stands. Very common, including some very large examples, in V, common in VI, rare in VII, and only two fragments in VIII. Fig. 59 *f* shows the restored shape, and



FIG. 61. Vases (Fig. 60) from Tsangli (scale 1:3).

other pieces are seen in Fig. 59 *f, g*. One example in V had had its stem broken in antiquity and the broken part then cut flat to enable it still to stand.

Fig. 66. Small, one-handled cups, one in VI and two or three given by Mr M. Apostolidhis. Fig. 60 *b, c, e*.

Fig. 67. Small jars with flat bottoms and almost vertical sides, we found none, but there are three specimens, given by Mr M. Apostolidhis, probably from the later strata. Fig. 60 *a, f, g*.

Fig. 68. Deep bowls with thick walls and slightly concave bottoms, these have vertical ribbon handles, often rudimentary, or lugs; pieces of this shape occurred from V-VIII. In Fig. 59 *a, b* a complete variety of this from VII and a broken example from V are shown, there are also other specimens given by Mr M. Apostolidhis.

The handles of this ware are always small and so rudimentary as to serve no practical purpose. Two-horned lugs are very common from V-VIII, cf. Δ-Σ, Figs. 184, 185, p. 269, and occur with painted ware as well.

One point of special note in the monochrome ware at Tsangli is the presence of a large number of pieces of three- or four-legged pots. There seem to be two main types: (1) large pots on four legs (see Fig. 58 *b*), probably for cooking purposes, which occur in V and VI, (2) small and well-made box-like vases, one of which from VI, like the fragment of  $\Gamma 2$  mentioned above, is a kind of table with a round cup on top, perhaps a table of offerings.

Exceptional shapes are: a shallow bowl with a splayed lip on a high foot, Fig. 58 *d*, a small lamp from VII, Fig. 61 *r*, a jug, Fig. 50 *b*, cf.  $\Delta-\Sigma$ , p. 146, Fig. 54, and the two-mouthed pot (Fig. 59 *c*) from VI. The shape is very odd, since both mouths go into the same body. As it has a hole in the bottom it was hailed by our workmen as a pair of binoculars.

Pieces of strainers were found in V-VIII, and there is one given by Mr M. Apostolidhis. There is also a peculiar trough or boat-shaped vase from this site in the Almiros Museum<sup>1</sup>, Fig. 74 *c*.

In V and VI there was a large quantity of plain, polished black ware closely akin to  $\Gamma$ at, but undecorated: it is rare in VII and very rare in VIII. The shapes seem to correspond with those of  $\Gamma$ at, of which it is probably an undecorated variety. There were also a few sherds in IV.

Also in V and VI, and occasionally in VII, we found many sherds of coarse pots chipped round into rough discs, probably for a game. The discs are of various sizes and some of them are painted.

Also amongst the vases given by Mr M. Apostolidhis are several pots very like those found by Tsundas in the cist tombs at Sesklo. There are four jugs (Fig. 59 *d*) similar to  $\Delta-\Sigma$ , p. 146, Fig. 54, a two-handled cup (P34), like  $\Delta-\Sigma$ , p. 145, Fig. 53, and a two-handled pot similar to the Minyan vase  $\Delta-\Sigma$ , p. 135, Fig. 36, but not wheel-made and without flutings on the body, perhaps a local imitation of Minyan ware. Probably a good many of the vases came from cist tombs, several of which are said to have been found during the contractor's digging<sup>2</sup>.

#### Pithoi.

We have already noticed in IV, under  $\Delta\Gamma$ , the early occurrence of large pithoi with applied and slashed ornament, although the fragments mentioned are very few. In V-VIII many pithoi fragments occurred, but few with applied ornament: and even when applied ornament exists it consists of raised bands pinched in at intervals with the finger to produce a row of shallow, round holes. This is commonest in VIII. But in VIII there was an enormous quantity of large, coarse pieces from store jars or similar vessels quite undecorated. In V was found an almost complete pithos (Fig. 60 *k*), which is unfortunately broken towards the bottom. It has four horizontal handles round the middle of its body and, for its large size, is well made.

$\Delta\Gamma\beta$ . Primitive, hand-made, geometric ware with patterns in thin matt black. We found none of this, which is the typical ware of Lianokladhi III, but amongst the sherds found by Tsundas here, and now in the National Museum at Athens, there are two sherds of this ware, the pattern of the larger is shown in Fig. 62.

<sup>1</sup> *Ath. Min.* 1910, p. 61, Fig. 3, p. 63.

<sup>2</sup> Tsundas says cist tombs were found here,  $\Delta-\Sigma$ , p. 131.

Minyan ware. In VIII we found four fragments of the typical ring-stemmed goblets, and there is another similar fragment from this site in the collection of Mr P. Apostolidhis. Further, amongst the vases given by Mr M. Apostolidhis there is a one-handled Minyan cup with a fluted body, Fig. 58c. This latter probably came from a cist tomb.

Mycenean ware, L. M. III. We have seen one small sherd supposed to have come from this site.

The principal details of the stratification are best explained by the accompanying diagram (Fig. 63), which shows how the different kinds of wares overlap one another. It will be seen that this site must have been thickly occupied during the First and Second Periods, but that towards the end of the Third it seems to have been only partially inhabited, if not deserted. In the Fourth Period also it does not seem to have been occupied except towards the end thereof. At all events it cannot have been thickly inhabited during this period, for the deposit that belongs to it is very thin, compared to that at Tsani or Zerelia. Further, the mound is not of the characteristic shape, like other sites which seem to have flourished during the Fourth Period, e.g. Rini, Zerelia and Tsani. Finally, it is only by assuming a complete or partial desertion of the site during the greater part of the Third and Fourth Periods that we can account for the telescoping of the later strata and the appearance of painted wares so close to the surface, unless of course this site continued to produce painted pottery long after all the others yet excavated.

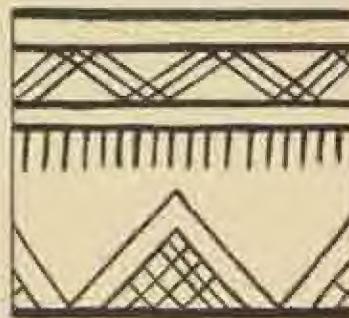


FIG. 62. Pattern of fragment of A12 ware, Tsangli (scale 1:2).

Strata	I	II	III	IV	V	VI	VII	VIII
A12					---			
A3 $\alpha$		---	---	---	---			
A3 $\beta$		---	---	---	---			
A3 $\gamma$			---	---	---			
B3 $\alpha$								
B3 $\beta$								
B3 $\gamma$								
B3 $\delta$								
B3 $\epsilon$								
B3 $\zeta$								
F1a1					---			
F1a2, F1a3					---			
F1 $\beta$					---			
F2					---			
F3					---			
Minyan Ware								---
Periods				FIRST		SECOND	THIRD	FOURTH

FIG. 63. Diagram to illustrate the stratification at Tsangli.

*Architecture.*

Except for a few disconnected walls of the Third, or Fourth Period, which were found not far below the surface, all the buildings excavated belong to the latter part of the First Period.

Four houses<sup>1</sup> in all were discovered, three, *P*, *Q* and *R*, are one on top of another, and a fourth, *T*, stands alone not far away.

House *T* (see the plan in Fig. 64) which measures  $7.75 \times 6.75$  metres is the best preserved. The walls, which are built of small stones set in mud or clay, stand to a height of '60 m. The upper structure was apparently of sun dried bricks, for many fragments of these were found baked hard by the conflagration that had destroyed the house. The most interesting feature of the plan is the system of internal buttresses of which there are

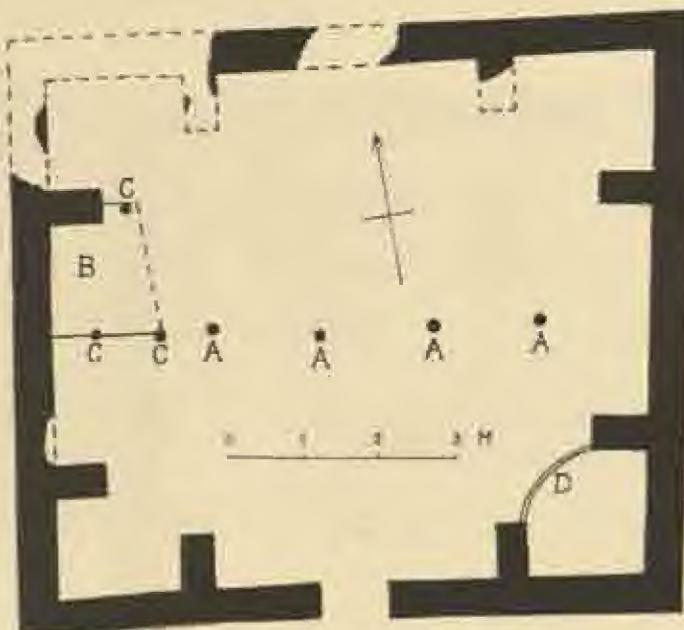


FIG. 64. Tsangli; plan of House *T*.

two on each wall. These were presumably to support the roof beams, but how they were arranged is not clear. In this case the roof beams might have run right across the house from buttress to buttress, the object of which would have been to support the walls and so enable them to carry the weight of the beams. Across the middle of the house stood a straight line of four thick posts (*A* on plan), the charred ends of which were found still imbedded to a depth of '20 m. in the floor of beaten earth. These seem to have formed a partition and may also have helped to carry the main roof beam. In the inner half of the house, and just where the partition should join the wall was a raised platform (*B* on the plan). It was made of clay smeared over a framework of light poles, some split

<sup>1</sup> The houses were left uncovered at the end of the excavation.

longitudinally, and others left in the rough. The preservation of this interesting object was also due to the fire, which had carbonised the woodwork and turned the clay into brick. The three posts (C on plan) adjoining the buttress probably combined with it to support this platform.

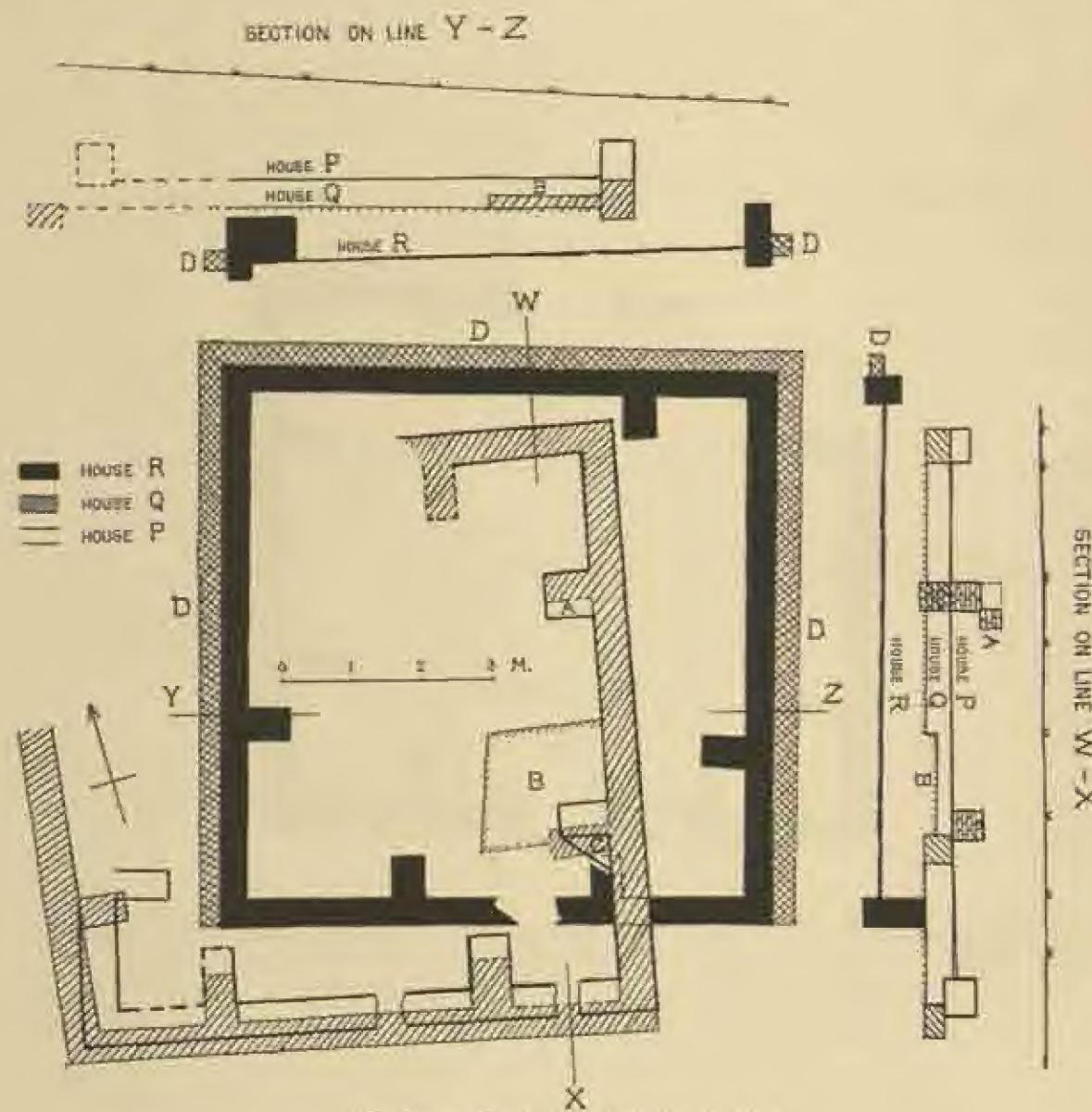


FIG. 63. Tsangli; plan of Houses P, Q, R.

which may have been used as a bed despite its small size. The two buttresses in the south-east corner were connected by a single row of small stones (D on plan). The space thus enclosed may have been used for stores, although nothing was found there. Just outside the line of stones

was the lower part of a small pithos very much decomposed by burning. The position of the hearth could not be discovered.

The other houses (see Figs. 65, 66) are of the same general type, although none have a partition down the middle. The number of the internal buttresses also varies. In House *R*, the earliest, only five were found, but if these buttresses were of any structural value, it seems probable that five would be an impossible number, and we may therefore restore a sixth on the northern wall, where only the bare foundations are now left. The other two, Houses *P* and *Q*, seem to have had eight buttresses each. The break in the southern wall of House *R* is only 30 m. wide, and the two gaps in the south wall of House *P* only 40 m. at most, thus it seems unlikely that these should have been doorways. We might therefore infer that the doors were in the opposite, northern walls. But in Houses *P* and *Q* the north



FIG. 66. Tsangli: Houses *P*, *Q*, *R* from the north-west.

walls are destroyed, and in the north wall of House *R* there is no visible break. Still the doorway might have been paved. It is at least peculiar that while the door in House *T* is so clearly marked, those in the other three houses are not visible. The following points must also be noted, the raised dais of beaten earth edged with stones in House *Q* (*B* on plan), the cobble pavement of House *P*, which was preserved in a few patches, and the triangle of stones between the east wall and one of its buttresses (*A* on plan). The other buttress on the same wall (*A* on plan, cf. the section in Fig. 65) seems to have been added to and utilised in repairing the house at a later date and a higher level. Perhaps, House *P* was rebuilt and the level of the floor raised. The walls were plastered with mud on the inside. The interest of these three houses lies in the way they are superposed. The ruins of one are used as the foundations of the next, and in the cases of *P* and *Q* the buttresses almost exactly coincide.

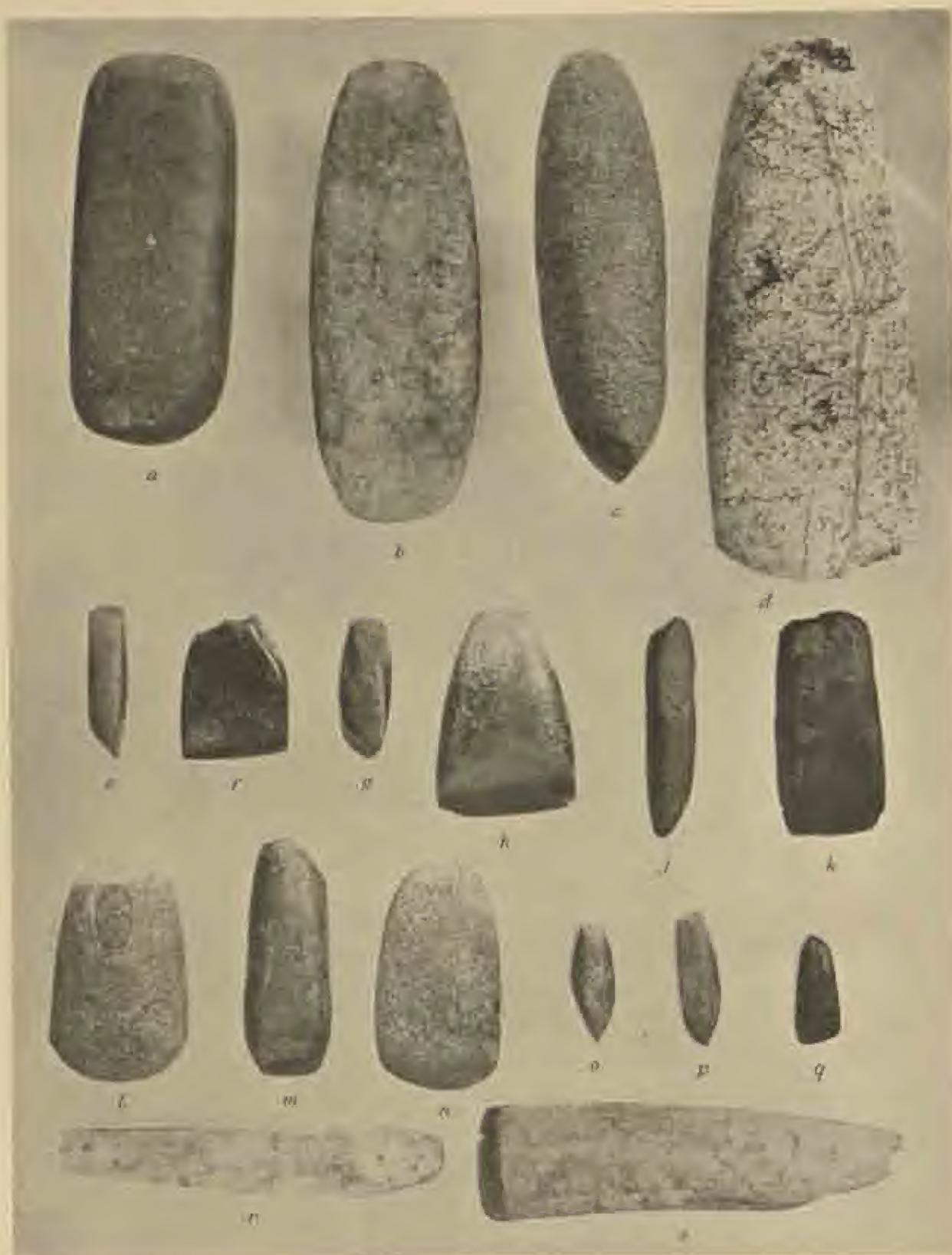


FIG. 67. Tsangli celts (a-q) and bone scissars (r, s), (scale 2:3)

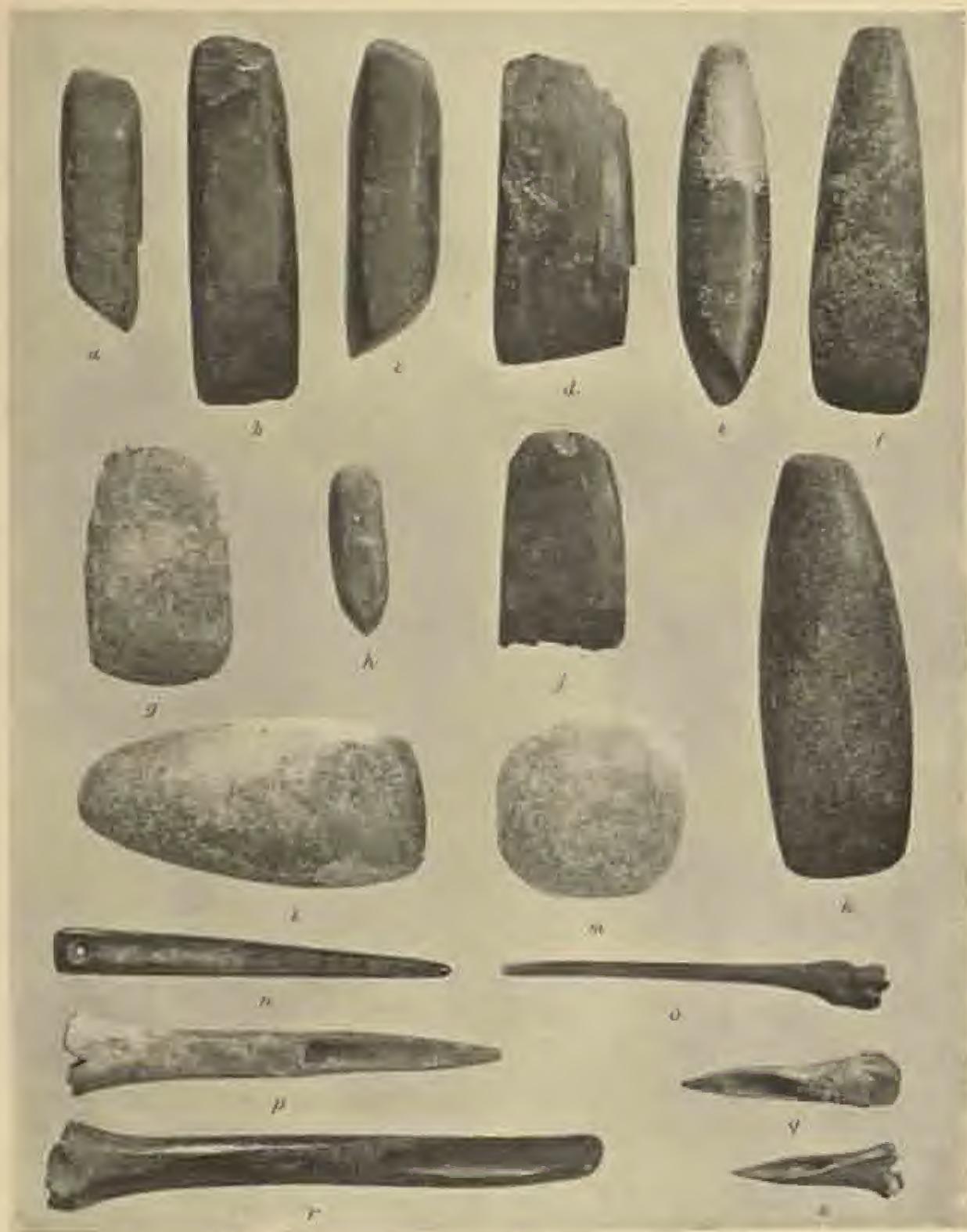


FIG. 68. Tsangli; celts, and bone pins, etc., from House P (scale 1:1).



FIG. 69. Tsangli; celts, figurines, etc., from House 7 (scale 9:10).

The wall *D* which adjoins three sides of House *R* seems to be intended to strengthen the foundations, but it is possible that it belongs to another earlier building of which no other traces are visible. If such exist they could only be found by destroying the other houses above. Houses *Q* and *R* seem to have been abandoned, while House *P* was destroyed by fire.

#### *Tombs.*

We found one cist tomb built of slabs on the top of the mound, which was not more than 50 m. below the surface. In it we found nothing but one skeleton buried in a contracted posture, and lying on its left side. Tsundas says that other cist tombs have been found here, and we were told that such have been found and that some of them were built of unbaked brick like those at Sesklo. Further, some of the vases given by Mr M. Apostolidhis to the Volos Museum seem from their likeness to vases from the cist tombs at Sesklo, and from the fact that they are complete, to have come from such tombs. However, though we dug several trenches along the southern side of the mound, we were unable to find any other tombs.

#### *Stone Axes and other Implements.*

A large number of celts were found, which may be classified as follows —

Type *A*, fourteen complete, and nineteen fragments: the largest is 14 m. long, Figs. 67 *c*, *d*, 68 *e*, *f*, *h*, *l*, 69 *a*.

Type *B*, four specimens of a triangular shape, and six that are like Type *A*, but unbevelled, Figs. 67 *j*, *k*, 68 *h*, *j*.

Type *C*, twelve complete, three unfinished (cf. Fig. 69 *e*), and sixteen fragments, they vary in length from 125 m. to 34 m., Fig. 67 *b*, *m*, *n*.

Type *D*, ten complete specimens, Figs. 67 *e*–*h*, 68 *g*, 69 *b*, *d*.

Type *E*, bored celts, we have seen two fragments from this site.

Chisels, eight, of these three are of Type *A* and five of Type *D*; and it is to be noted that all occurred in strata I–IV, Figs. 67 *a*–*g*, 68 *a*–*d*, 69 *c*. There is also one other of Type *A* in the Volos Museum given by Mr M. Apostolidhis.

There were also six other fragments of celts too broken to be classified.

Other stone implements are —

Hammers, oblong with rounded ends and sides, twenty-five specimens, cf. Fig. 67 *a*, *l*.

Pounders, round, seventeen examples, Fig. 68 *m*.

Grinders, or polishers, three, two have handles, and the third is flat and oval (Fig. 70). The latter and one of the others are of vesicular lava.

Pestles, two, very long and large from Houses *P* and *T* (Fig. 70), and one other given by Mr M. Apostolidhis.

Sling bullets, one.

Mortars, one with the bottom worn out, and one given by Mr M. Apostolidhis. Fig. 70.

Millstones, a large number were found, and are usually of vesicular lava. They fall into two types, (*a*) saddle querns (Fig. 70), (*b*) broad, flat stones of irregular shape worn flat on both sides: both types are equally common.

Stone disc, one example, probably a cover for a vase: there are similar but larger discs in the Almiros Museum from prehistoric sites in the district, which probably served as covers for pithoi.

The celts of Types B and Δ were all found in the lower strata, I-IV, and in general the celts from the lower strata are better made, more highly polished, and smaller than those from the later.



FIG. 76. Tsangli: millstone and grinder, pestles and mortars.

Flint and obsidian, chips and knives of both were common in all strata: some good flint (chert) knives were found (Fig. 78 *m-o, q-l*), and also a small spear head (Fig. 78 *p*), which indeed is so small that it may have been an arrow head, though it is neither of the hafted nor of the barbed type.

#### *Terra-cotta and Stone Figurines.*

We found a large number of terra-cotta figurines: all the better examples occurred in the early strata, especially in III and IV.

To I belong the lower part of a seated steatopygous figure with crossed legs, Fig. 71 *a*, cf. Δ-Σ pp. 294-295 from Mesiani Maghula, the lower parts of the bodies of two seated steatopygous figures (all of these are apparently female), and part of the body of a quadruped, perhaps a pig.

To II belong only two, the bird-like torso shown in Fig. 77 *b*, and the long-haired head (the features are unfortunately defaced), Fig. 77 *g*, with which we may compare the heads from Sesklo (Δ-Σ, Pl. 32, 1) and Tsani, Fig. 91 *d*, p. 147.

In stratum III we found twenty-four figurines, of which twelve are small, unimportant fragments. The others can be classified as follows. Two are seated male figures, one of which is painted in the red on white style, with long necks and the hands resting on the knees, Fig. 75 *d, e* (cf. the fragments from Kakunani I): in these we may note the good workmanship, for though unpainted, the figures are well made and polished, the addition of two extra legs behind to enable the figure to sit down (cf. the figures from Sesklo and Tsani), the long necks, and the fact that the hands have only four fingers each. Two are large female figures, both painted in the red on white style, one of which has pendant breasts, Fig. 75 *a, c*. Two are female

figures with long necks and with the hands placed below the breasts (Fig. 76 *a, b*), one of them seems to wear a necklace, and there is a small head probably from a similar figurine (Fig. 76 *c*). Three are small female figurines



FIG. 71. Tsangli; terra-cotta figurines (scale 9:10).  
*a* (—Fig. 76 *c*). *b* (—Fig. 77 *d*).

with the arms below the breasts. These may be thought to be wearing skirts (Figs. 73, 76 *d*), but it seems more probable, seeing that the sex is indicated, that the legs are represented together as one solid mass. The only other two figurines from this stratum are the large foot and the phallus painted in the style of the red on white ware (Fig. 76 *j, k*), which must have belonged to very large figures, perhaps to the same one for they were found close together.



FIG. 72. Tsangli; terra-cotta head (scale 1:2).



FIG. 73. Tsangli; figurine (—Fig. 76 *d*), (scale 1:1).

In IV we may first take the six figurines found in House 7: two of these are beaked figures like Fig. 69 *h, j*, which hold some object in front of them, a third is a smaller and ruder figure of the same type (Fig. 69 *k*), the fourth is a large head painted in the red on white style wearing a kind of turban, Fig. 72, and the other two are merely fragments of legs. The other figurines from IV include a large female torso with pendant breasts (Fig. 77 *a*) similar to that from III, an extraordinary steatopygous female

figure with a very long neck and very small legs (Fig. 77 *c*), a peculiar pear-shaped head painted in the red on white style (Figs. 71 *c*, 77 *d*), a quadruped perhaps a pig (Fig. 77 *b*), and a head apparently male with a very long neck exactly like one found by Tsundas at this site, Fig. 77 *e*, Δ-Σ, p. 299, Fig. 224. In this last the hair at the back of the head is rendered by incisions, and so the similar incisions in front on the neck may represent a beard. The other figurines from this stratum are merely fragments of legs or arms, one of which is painted in the red on white style.

From V there are eight figurines. The most interesting is the complete steatopygous, female figure with a bird-like face (Figs. 71 *b*, 76 *f*). The next is the torso of a large female figure with the right arm raised and with the left hand with four fingers resting on the waist (Fig. 75 *b*); this is steatopygous and covered with a white slip, and similar to the figurines from III. The others are a head with a long neck, a large nose, and no mouth (Fig. 76 *f*), a female torso with a necklace represented by incisions (Fig. 76 *e*), a small bearded head of bad work (Fig. 76 *g*), two small pieces of legs, and a large

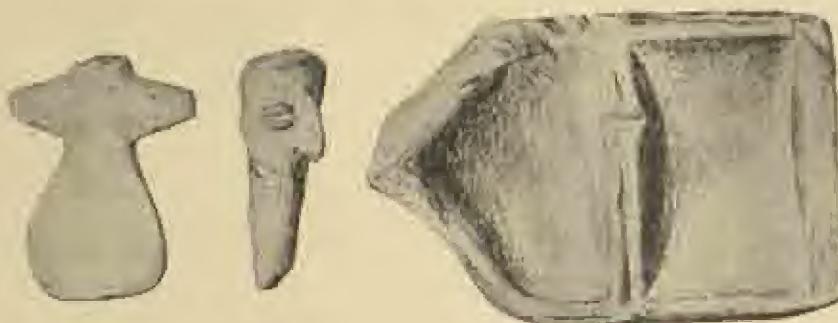


Fig. 74. Tsangli, figurines, etc. (scale about 3:5).

and peculiar object perhaps the upper part of a steatopygous, female figure, Fig. 75 *f*.

In VI only three were found, the lower part of a steatopygous figure (Fig. 76 *b*) like the complete one from V, and two small fragments, one of which is from a seated figure.

In VII only two occurred, a female figure (Fig. 77 *f*) like the skirted type from III, and a leg.

In VIII only three were found, part of a large, steatopygous, female figure, the leg of another similar, but smaller, and a small example of the skirted type like those from III and VII.

In the Almiros Museum there are four terra-cotta figurines from this site<sup>1</sup>. Of two heads which seem to belong to the First Period one has a prominent nose and the eyes, mouth, and hair rendered by incisions, the other<sup>2</sup> (Fig. 74 *b*) has no mouth, but very prominent eyes and nose. The other two are an animal head perhaps from the handle of a vase, and a human figure of the late shapeless type, cf. Δ-Σ, Pl. 35.

<sup>1</sup> *Ath. Mitt.* 1910, p. 62.

<sup>2</sup> *Ath. Mitt.* 1910, p. 61, Fig. 2.

*Stone figurines.* In the Volos Museum there is a stone head from this site given by Mr M. Apostolidhis which though unpainted is like those from House *Q* at Rakhmani, and was doubtless intended to set in a rude terra-cotta torso. There is also a fiddle-shaped stone figurine<sup>1</sup> from this site in the Museum at Almiros (Fig. 74 *a*), which is similar to those from Sesklo and Dhimini, but has no likeness to Cycladic types.

*Miscellaneous Objects<sup>2</sup>.*

*Horn and bone.* Pins and awls, sixty-two specimens of different sizes, four from House *T* and seven from House *P*. Figs. 68 *a-g*, 5, 69 *f, g*, 92 *c-f*.

Bone needle, one, very well polished, long and broad with a hole at the end, from House *P*, Fig. 68 *u*.

Bone gouges, fourteen, three from House *T*, and one from House *P*, Figs. 68 *r*, 92 *a, b*.

Scrapers, six, one which is made from a rib bone has a hole bored through the blunt end, Figs. 67 *r, s*, 92 *g*.

Bone ring, one.

Deer horn haft, one, this probably like the specimens from Dhimini (Δ-Σ, p. 316, Figs. 241, 242) probably had a small celt inserted in one end.

Deer horn picks (?), two.

Deer horn hammer, one, which is bored through for fixing on a shaft: at the end opposite to the hammer end there seems to be a socket for inserting a celt, cf. Δ-Σ, p. 317, Fig. 243.

*Stone.* Pendants, five, all of which are pierced, and come from strata I-IV: the smallest is of bright green stone, and only one is worked at all, Fig. 78 *b, j-l*.

Bead, one, of crystal, bored.

Ring, one, of red stone, Fig. 78 *h*.

Bracelets, three, all fragments, one of which has a hole bored through it, Fig. 78 *c, d*.

Also among the objects given by Mr M. Apostolidhis to the Volos Museum is a stone rubbed into the shape of a human leg and with a hole bored through the top.

*Shell.* Bracelets, four fragments, Fig. 78 *a, e-g*.

There are also one cowrie, and one cockle shell from this site which are pierced for suspension.

*Terra-cotta.* Sling bullets, we found over 150, of which at least sixty were found in House *Q*. They are very badly baked, and when first found are liable to crumble away. One has a large gash on one side, another is of a double conoid shape, and a third merely a rough lump of clay. Mr M. Apostolidhis also has given to the Volos Museum a large number of sling bullets from this site.

Whorls, flat, thirteen, one is very thick, another very wide, and seven made of potsherds; conical two; double conoid eleven. There is also a

<sup>1</sup> *Ath. Mitt.* 1910, p. 64, Fig. 1.

<sup>2</sup> Various miscellaneous objects from this site p. 63.

are described by Viammpalos in *Ath. Mitt.* 1910,



a

b

c



a

b

c

FIG. 75. *Tsaagli, terra-cotta figurines (scale 9 : 10).*



FIG. 70. Tsangli, terra-cotta figurines (scale 9:10).



FIG. 77. Tsangli; terra-cotta figurines (scale 9:10).



FIG. 78. Tsangli: ornaments of shell and stone, flint knives, etc. (scale 9:10)  
W. & T.

conical stone whorl given by Mr M. Apostolidhis to the Volos Museum. The double conoid whorls seem to occur earlier here than at other sites, for there were two each in Houses *P* and *R*, and one in House *T*.

Weights for looms (?), two, large, roughly made and pyramidal, and bored at the top.

Spools, two large examples with splayed ends, and bored lengthways.

Discs, five flat, one has a dotted X on top, another has two pairs of holes bored on opposite edges. There is also a large disc with a hole bored through the edge on one side.

#### B. RINI.

The Maghula of Rini (p. 10, no. 82) lies near the village of that name at the foot of the hills on the south side of the valley that stretches up from Pharsalus towards Pherae, and is about three-quarters of an hour east of the Greek acropolis at Tsangli which is usually called Eretria in Phthiotis<sup>1</sup>. The mound itself stands on a low foothill, and below it is an excellent spring. A trial excavation was made here in 1904 by Dr Kuruniotis, and he has most courteously allowed us to publish the results, and has given us every facility for the examination of the pottery found, which is now in the National Museum at Athens. In addition, we ourselves have visited the mound three times, and planned the house found on the top. The mound, which is about six metres high, is on top approximately fifty metres long and thirty-five wide.

#### Pottery.

As the trial pits and trenches were not dug more than three metres deep, and the mound is at least six metres high, it will be seen that all the pottery found comes from the later and upper strata, and that the lower and earlier strata are untouched. Further, except in the case of a few painted sherds, no detailed notes of the stratification were made. But since the pottery all comes from the upper part of the mound, we know that it is late rather than early, and must in consequence be compared with the later wares from other prehistoric sites in Thessaly, i.e. with the pottery of the Third and Fourth Periods.

The sherds found may be classified as follows:

A1. Monochrome red ware, five sherds of the typical shape, and four pieces of coarse vases of less refined clay, Fig. 79 *a*.

B2. (?) Incised ware, one fragment, showing part of a large key pattern: the incisions were filled with white, Fig. 79 *p*.

B3a. Dhimini ware: two fragments of the first category were found, and twenty of the second. Three of the latter were of the chocolate on cream style, and the rest, one being found at a depth of nearly three metres, of the black on red style.

B3b. Three-colour ware, one piece found at a depth of three metres.

<sup>1</sup> *Ath. Mitt.* 1906, pp. 18 ff.

<sup>2</sup> Tsanglis also examined the site, Δ-2, p. 131, note 3.



FIG. 79. Pottery, etc., from Rini (scale 1:2).

P<sub>1a</sub>. White on black polished ware, three sherds, but one is of coarse red-brown clay and resembles the sherd from Tsangli figured by Tsundas, Δ-Σ. p. 242, Fig. 142.

P<sub>1y</sub>. Crusted ware, five sherds covered with dusty pink paint. Tsundas also found one sherd here, Δ-Σ. p. 244.

P<sub>2</sub>. Incised ware, two small pieces, Fig. 79 r, s.

P<sub>3</sub>. Coarse monochrome ware: the great bulk of the pottery, in fact all of it except the fragments of other wares here mentioned, belongs to this class. Amongst it we may note several fragments of P<sub>3a</sub>, two-handled cups, and P<sub>3y</sub>, high, wide bowls with small vertical handles with a long attachment below against the side of the vase (Fig. 79 l, o). Most of this coarse ware, which varies in colour from reddish-brown to black, seems to consist of pieces of large dishes and bowls, and the better made examples are generally polished. One or two pieces have a row of holes bored along the rim, and there are five examples of handles in the form of false spouts, Fig. 79 m.

Pithoi. Fragments of these were common. Many pieces are decorated with raised belts of applied clay either slashed across or pinched in with the fingers: some of the patterns are curvilinear.

Minyan ware, two fragments of the ring-stemmed goblets were found, Fig. 79 k.

Δ18. Hand-made geometric ware, the typical pottery of the third stratum at Lismokdalihi (see Chapter VIII): one fragment was found, part of a two-handled cup with a rude geometric pattern in thin matt black on a reddish biscuit.



FIG. 80. Rini; plan of house.

#### Architecture.

In the top stratum, and not far below the surface, an oval house<sup>1</sup> was found. It is somewhat irregular in plan (Figs. 80, 81), and the walls, which stand about 60 m. high, are carelessly built of small, rough stones. The upper structure, of which nothing now remains, was probably of wattle and daub, or perhaps of unbaked brick. This house is divided into three rooms: a large central room rectangular in plan with a small, semicircular chamber at each end. It is difficult to fix the position of the doors: probably the main entrance led directly into the central room from the

<sup>1</sup>This is still (1910) uncovered, and well preserved.

east side where the outer wall is now destroyed. There is also a narrow gap, presumably a doorway, leading from the main room into the south room, but none into the north. This presents a difficulty, and we can only offer the following conjectural solutions. The semicircular chambers, which are very small, may be only places for stores, in which case the division walls need not have been carried up to the roof, and so no entrance from the ground level would have been required. There may, however, have been an entrance at a higher level, or the floor of the house may have



FIG. 81. Rini; the prehistoric house in winter, from the south-west.

been on a level with the top of the walls, or finally, the end divisions may have been nothing more than raised platforms. It must also be remembered that it is possible that there was no direct entrance into the central room, and the gap in its eastern wall may be accidental. In that case the gap in the south-east corner of the southern room would have to be considered as the main door of the house, and so that room would have been a sort of ante-chamber to the central room.

A contemporary house at Rakhmani (House *P*), with one curved end, is the nearest parallel to this type.

#### *Tombs.*

In the same stratum as the house two cist tombs were found. One is shown on the plan close to the door of the house, and the other is toward the southern end of the mound. They are built of slabs, and in every way resemble the tombs at Zerelia. They contained nothing but the skeletons buried in a contracted attitude. Also on a hill to the west, separated by a narrow ravine from the mound, peasants have recently (1910) opened some similar tombs. Apparently all these tombs, like those at Sesklo and Zerelia, belong to the latter part of the Fourth Period.

*Terra-cotta Figurines.*

Only three were found. One of these, the head and upper part of the body of a rude columnar figure, was found at a depth of three metres. It seems to be female (Fig. 79 *g*), and recalls a figurine from Zerelia (p. 217, Fig. 109 *g*). The other two figurines are covered with thick dusty white paint in the style of the *Piy* ware (Fig. 79 *h, j*). Both belong to the class of shapeless figurines, so common at Dhimint; in any case, to judge by the painting on them, they date from the Third Period, cf. one of the Zerelia examples, Fig. 109 *k*, p. 162.

*Stone Axes and other Implements.*

These may be classed as follows:

Celts, Type  $\Delta$ . One specimen that has been partly sawn in half, Fig. 79 *a*.

Type  $E$ , one fragment which was found about 30 m. from the surface, Fig. 79 *e*.

Millstones, seven fragments of saddle querns.

Pounders, or grinders, four of the former, and one of the latter, round in shape.

There were also four good knives and many flakes of obsidian, and one small knife and three fragments of flint. Fig. 79 *b-d*.

*Miscellaneous Objects.*

Under this head fall the terra-cotta whorls, of which four were conical, two flat, three made of broken potsherds, and four of a double conoid type. There was also a conical steatite whorl, a bead (Fig. 79 *f*), seven bone awls or pins, a pierced cockle shell, and a small terra-cotta seal similar in shape to those from Sesklo, Fig. 79 *g*,  $\Delta-\Sigma$ , pp. 340 ff., Figs. 270-273.

The finds from Rini in general correspond very well with the last four settlements at Zerelia (Zerelia V-VIII). Few painted sherds were found, and those to judge by Dr Kuruniotis' notes were deep down. Thus it seems that only the Third (Chalcolithic) and Fourth Periods are represented by this excavation, a conclusion which the great number of conical whorls supports. But it must be remembered that the lower strata have not yet been explored.

## CHAPTER VI

### WESTERN THESSALY, TSANI MAGHULA

THE mound known as Tsani Maghula (p. 11, no. 96) lies three-quarters of an hour east of Sophades just to the north of the railway line, and about the same distance from the site of Cierium by Pirghos Mataranga (*Μαραπάγκα*). The mound is about 105 metres long by 73 wide, and is 8·50 m. high. We excavated here in July 1909<sup>1</sup>, and tested the mound by shafts sunk at its northern end. The largest shaft driven down on the north-east side struck virgin soil at a depth of 9·45 metres. Another sunk in the highest part of the mound reached the second settlement at nine metres, and as the first and second settlements in the large shaft are together over four metres thick, the deposit at the highest part of the mound must be between twelve and thirteen metres thick. In any case it extends to a depth of four metres below the present ground level at the foot of the mound. As the shafts were sunk, successive horizontal layers of burnt rubbish, similar to those at Zerelia, appeared, which seem to mark the limits of settlements destroyed by fire. Taking these layers, which probably are the remains of wattle and daub huts, as convenient though perhaps arbitrary divisions, we divide the whole deposit into eight successive settlements or strata, on which the following description of the finds is based. The first and lowest settlement is subdivided into three layers, *A*, *B* and *C*, for it is very thick, and the development of the pottery that takes place in it is very important. The finds are now in the Volos Museum.

#### *Pottery.*

*A1.* Monochrome red ware, similar to that from Sesklo, Tsangli and Zerelia, but not so fine, or well made and less often polished. The following shapes can be determined: (a) bell-shaped mugs, with a flat base and a ribbon handle set low down, (b) open bowls, Fig. 82 *c*, *d*, of which there are two sizes, small and large, with sides that splay out at the top: these are usually polished, and the best specimen shown in Fig. 82 *d* is decorated with low round knobs, (c) narrow-necked bowls with low lips, only a few certain pieces, Fig. 82 *b*, (d) jugs with large bodies, high necks, and a raised base, Fig. 82 *a*, (e) rectangular dishes on four legs, many legs from such vases found. Amongst odds and ends there are to be noted, two loop handles (Fig. 82 *e*), from the rims of bowls, two ribbon handles with small cups attached to them (Fig. 82 *f*, *g*), a ladle with a loop handle, and two spouts from jugs probably of shape (d).

<sup>1</sup> See *Liverpool Annals*, 1909, pp. 152 ff.

A certain number of pieces of this ware are much paler in colour than usual, and roughly formed and badly baked. There are two pieces with black smears on the surface, which are only important because this variety is fairly common at Tsangli.

This ware is common in all three layers of I, is moderately common in II, and rare in III.

A2. Incised ware, two pieces totally unlike the true pieces of A2 from North Thessaly, see Chapter III. They are unpolished, have no added colour, and are decorated with rough slashes on the surface, cf. Δ-Σ, Pl. 13, 3. One piece from I and two from II.

A3a. White on red ware, this was moderately common in I *B* and *C*, but there were only seven sherds in II, and none in III. It seems possible to distinguish three shapes, (a) bell-shaped mugs like the typical shape of A3β (Fig. 86 *a, b*), (b) bowls, one fragment only, (c) small cups, only one piece.

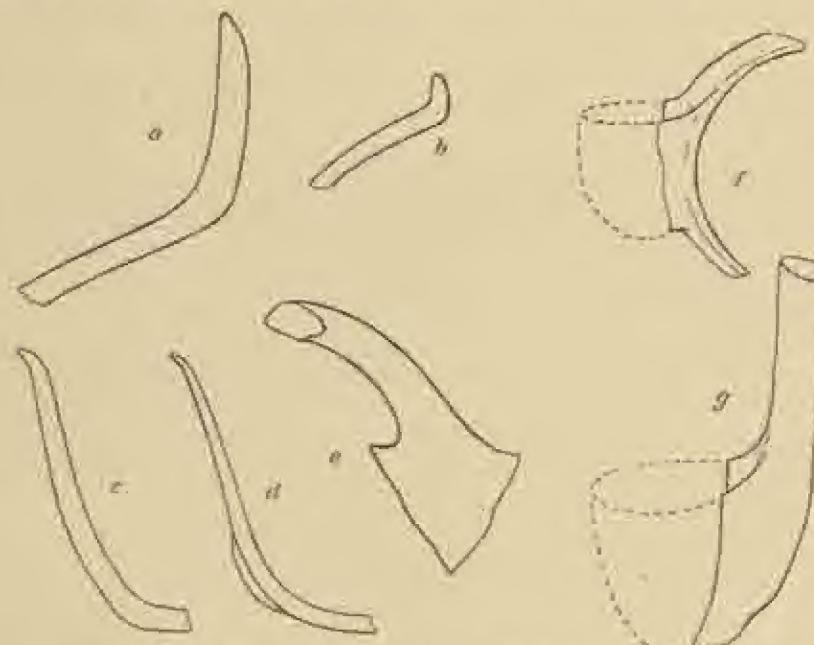


FIG. 81. Tsani Magnusa, shapes of A3a ware (scale 1:2).

(d) large-bodied jugs with tall, narrow necks, and ribbon handles on the shoulder, Fig. 83 *a*. The patterns (Fig. 83 *a-d*) are usually linear, except for a row of solid triangles round the neck of a jug. The zigzag is common: one piece of a mug seems to have a stepped linear design; some pieces have white dots sprinkled between the lines, and one has a star pattern. The paint is matt, and laid on thickly. Otherwise the ware is polished and well made.

A3β. Red on white ware, this belongs to the second or West Thessalian category, and subdivides into two periods according to the styles of the patterns used. The earlier style has solid patterns, and the later linear.

<sup>1</sup> Continue Figs. 84 and 85.



FIG. 33. Tsani Maghala: sherds of A39 (a-d) and A38 (e-o) ware (scale 2:3).  
W. & T.

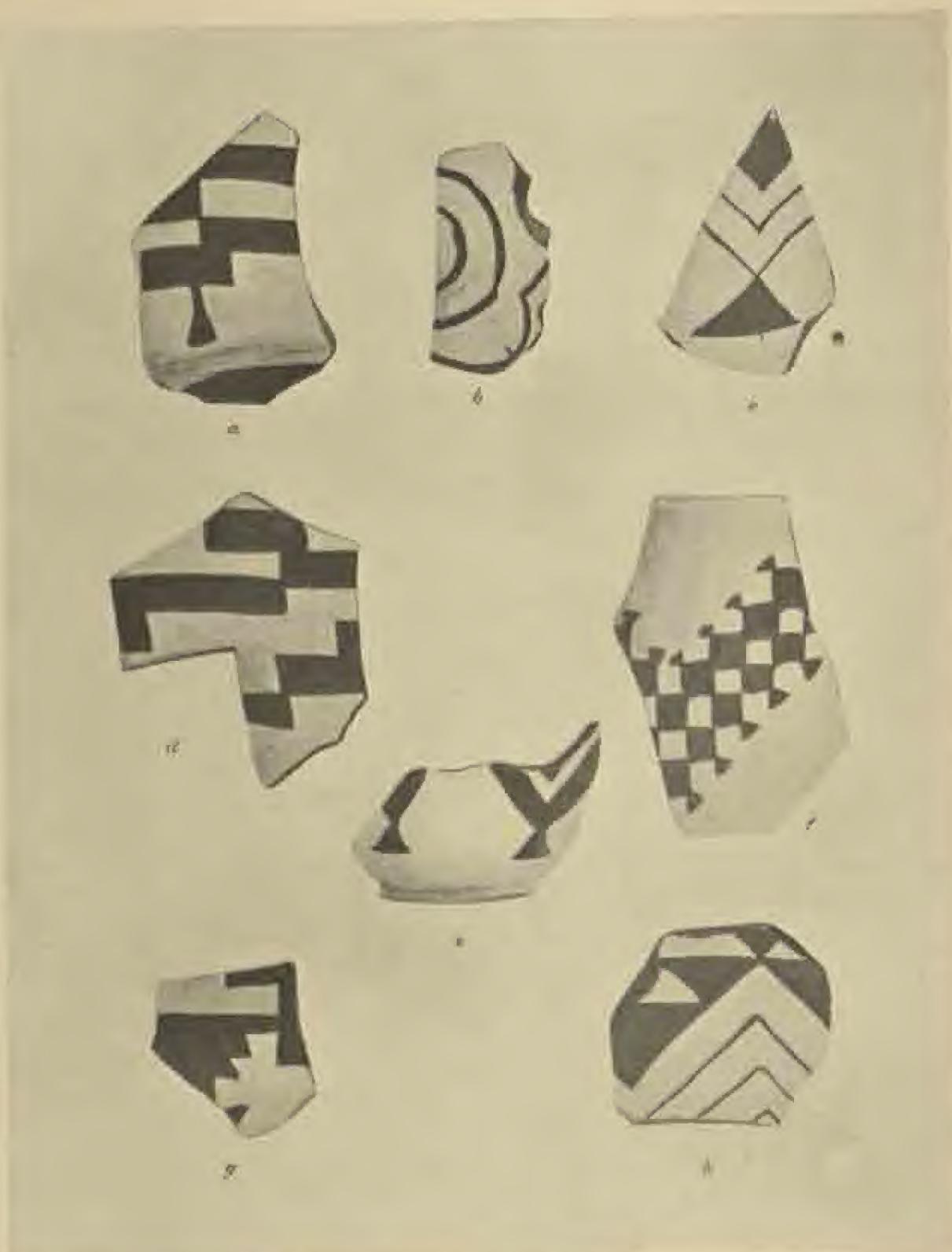
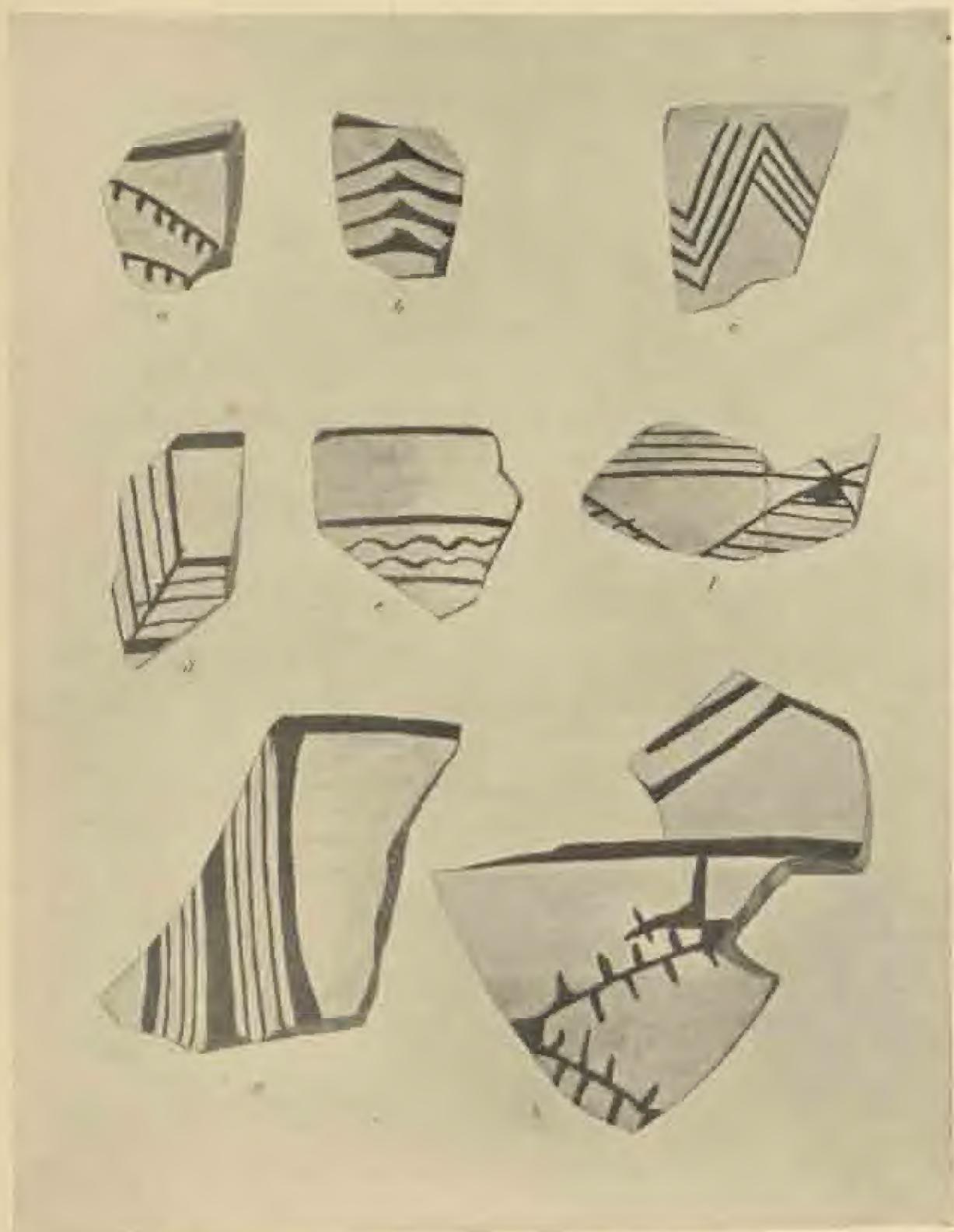


FIG. 84. Tsani Maghila; red on white ware (533), earlier style (scale x 3).



Figs. 85. Tsani Magniata red on white ware (A32), later style (scale 2:3).



FIG. 86. Tsani Maghila; complete vases; a, b A32, c, c P3 (scale 1:31).

The solid style is common in I B, and less common in I C; there is one sherd in I A, eighteen in II, six in III and two in IV. The linear style is common in I C, and in II; it is rare in I B, and there are nine sherds in III and one in IV. In the solid style the typical shape of this category is very common, (a) a bell-shaped mug with a wide ribbon handle set low down and a flat base (Fig. 86 a, b). The only other shape is a bowl (Fig. 83 p, o) with a low, narrow neck, sometimes a raised base, and vertical loop handles set low down: it is, however, very rare. Of the later, or linear style, the principal shapes are (c) a wide dish with tall sides that splay out towards the top, this is the shape so common in A<sub>3</sub>β at Sesklo, Tsangli, and Zerelia, (d) narrow-necked bowls, (e) shallow plates on high feet like those from Tsangli and Lianokladhi. Of these three shapes the first is the commonest. A fragment of a shallow bowl with a tall lip may also be noted, Fig. 85 h.

As will be readily seen from the illustrations, the two styles differ very much in the patterns employed (Figs. 84, 85). The solid style delights in a regular step pattern, while the linear patterns of the other include combinations of plain and wavy lines, and triangular chessboard patterns like those from Lianokladhi and Chaeronea. A few pieces seem to show a combination of the two styles. Both wares are apparently local, and it is to be remarked that the later, or linear style, resembles to some extent the early three-colour ware classed as B<sub>3</sub>γ.

A<sub>3</sub>γ. Two small, unimportant fragments were found in I B; the paint has a distinctly blackish tinge like the examples from North Thessaly, e.g. Argissa and Rakhmani.

A<sub>3</sub>ε. Red-brown on buff ware, three probable sherds of this were found in II, but they are not very like the specimens from Tsangli.

B<sub>1</sub>. See Γ<sub>3</sub>.

B<sub>2</sub> or Γ<sub>2</sub>. Incised ware. In III there were three fragments that might be classed under this head, though they also show considerable likeness to the incised ware from Phthiotic Thebes which might be classed as Γ<sub>2</sub>. One piece is from the lip of a bowl, another from the body of a bowl by the handle which has white filled incisions, but on the handle is a crust of red paint in the style of Γ<sub>1</sub>γ. It will be thus seen that these sherds agree neither with B<sub>2</sub> nor with Γ<sub>2</sub>, yet they occur with B wares. Consequently as they are so few in number it is very difficult to class them.

B<sub>3</sub>α. Dhimini ware. This was common in III: two sherds were found in II, and three in IV. All, but one piece, belong to the black on red style of the second category. They all seem to be pieces of the typical shape.

B<sub>3</sub>β. Three-colour ware. There is one piece from II which shows a red pattern outlined with black on a ground that was perhaps once white. With this we may class two sherds from III which show the technique and patterns of A<sub>3</sub>γ or A<sub>3</sub>ε with linear designs in black surcharged over them. We can compare with these one or two somewhat similar sherds from the top of Lianokladhi I. There are also a large piece of a bowl (Fig. 87) of the typical shape of B<sub>3</sub>α, and one small fragment, which are painted outside in the style of B<sub>3</sub>β and inside in the style of the second category of B<sub>3</sub>α. Both inside and out the patterns are the same as those typical of B<sub>3</sub>α.

B<sub>37</sub>. Three-colour ware, four pieces of fruitstands and six other fragments were found in III.

B<sub>38</sub>. Black on red ware, this is common in III: there are sixteen sherds in II and two sherds in IV. This differs from the second category of B<sub>34</sub> in the character of the patterns and in the shapes of the vases. The patterns are always linear, and cover only a small part of the surface of the vase, and sometimes in blank spaces crosses or wavy lines are put in to fill up the field. There are two main shapes, (a) large-bodied jugs with high necks and handles running from the shoulder to the neck, (b) wide dishes, handleless, with tall incurving sides and apparently concave bottoms. Other small fragments do not seem to belong to either of these shapes, but are too minute to enable their true shape to be decided.

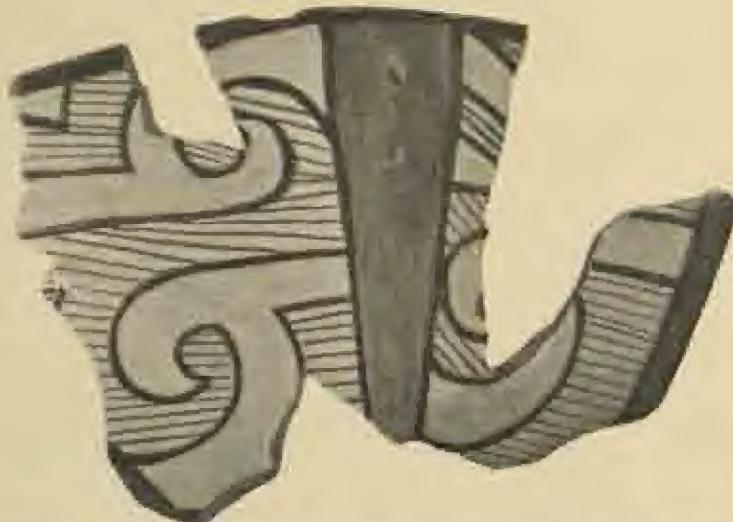


FIG. 37. Tsimi Maghala: fragment of B<sub>38</sub> ware (scale 1 : 2).

B<sub>39</sub>. Brown on buff ware, several pieces were found in III, and only four sherds in II. Three pieces are from small jugs like those from Tsangli, others come from large bowls or jugs, the exact shape of which cannot be determined, though they were perhaps like Fig. 54 c, d from Tsangli. This ware is closely related to B<sub>38</sub>, the main difference being the colour of the clay. The paint is usually matt.

B<sub>40</sub>. Three-colour ware, three fragments were found in II.

P<sub>18</sub>. Grey on grey ware, there were seven fragments in I C, and it was fairly common in II and III. The biscuit, which is usually polished, is most often silver grey, but occasionally pink in colour, and is decorated with simple linear patterns in deep grey (Pl. IV 5, 6). On better specimens the paint is almost black. The commonest shape is (a) a bell-shaped mug, similar to the typical shape of the second or West Thessalian category of A<sub>38</sub>, with a ribbon handle set low down and a flat base. The sides are thin, but the bottoms are thick. The only other shape, which is very rare, seems to be a bowl with a high neck and a foot, cf. Fig. 57 b, d, p. 107, Δ-Σ, Fig. 144, p. 243. A few fragments have holes bored along the broken

edges. These holes are due to the method of mending broken vases in antiquity, by tying them together with thread or sinew. Possibly this ware was highly prized.

Fig. 7. Crusted ware, seven sherds of both categories were found in IV. Five sherds show patterns in pink applied to black polished ware, and the other two patterns in white on a red polished ground. One piece of the former is part of the lip of a cup with a handle like  $\Delta$ - $\Sigma$ . Fig. 146, p. 245.

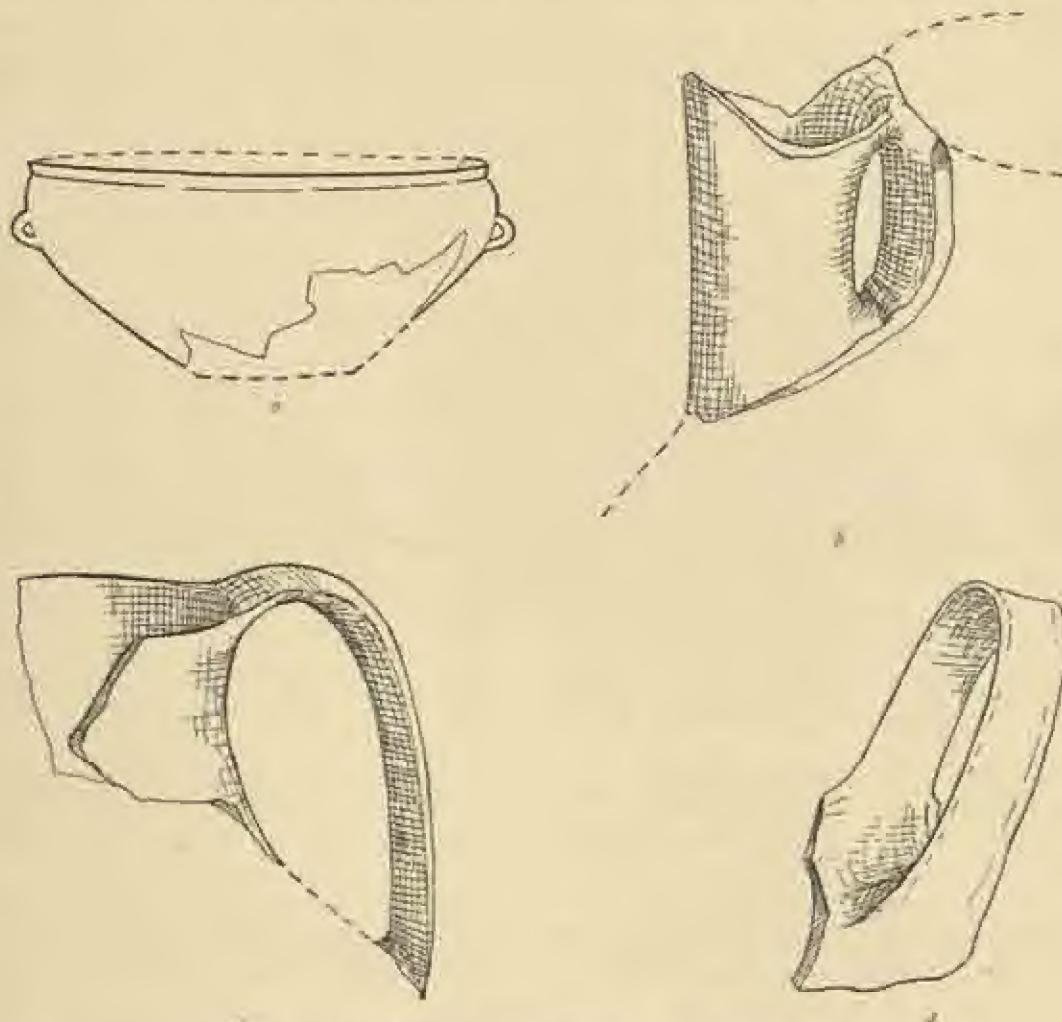


FIG. 88. Tsani Maghula; fragments of  $\Gamma_3$  ware (scale 1:2).

$\Gamma_3$  and B1. Coarse monochrome ware. Since there are no characteristic shapes of B1 it is impossible to keep these two classes of Tsundas' apart, and so it is better to take them together. From the end of the third settlement to the eighth practically all the pottery is coarse monochrome ware. It gradually degenerates, the fabric becomes coarser, the vases are less often polished, and are large and clumsy. Also in III fragments of pithoi first appear. The only exception is that in IV and V together with the few

sherds of Urfishis ware a few vases of superior technique were found. The following shapes occur:

T<sub>3a</sub>. Two-handled cups, common in VII and VIII, and there were two doubtful fragments in VI. It should be noted that in some examples the handles project high above the rim, Fig. 88 *d*.

T<sub>3b</sub>. Shallow bowls with raking handles, a few pieces in VIII.

T<sub>3d</sub>. Shallow wide bowls with horizontal suspension holes. In V two complete specimens of a variety of this type were found (Fig. 86 *c, d*); they have incurving rims and a projection at the point where the rim curves in. There were also several fragments of this type. A larger example has two small, vertical ribbon handles instead of projections (Fig. 88 *a*). From still larger specimens probably are some long tubular ribbon handles, which, it is to be noted, also occur in the Urfishis ware at Lianokladhi. These vases are remarkable for their excellent technique, and are usually polished. Since they occur in the same stratum as the Urfishis ware they should be compared with vases of similar shape in that ware. There was one fragment in III, five in IV, and one in VI.

T<sub>3e</sub>. Narrow-necked bowls, one good specimen from V (Fig. 86 *f*); the two projections on the shoulder are noteworthy.

T<sub>3g</sub>. Rugose dishes, several large fragments with splaying sides from IV and V. Rugosity also occurs on sherds the exact shape of which is unknown.

T<sub>3i</sub>. Wide open bowls with flat bottoms and splayed lips, common in VI, VII and VIII; there are two fragments in IV and a few in V.

T<sub>3k</sub>. Small jars, one example in III (Fig. 86 *e*), two in IV, one very good one in V (Fig. 86 *g*), and one in VI.

T<sub>3l</sub>. Conical lids, one example in IV.

T<sub>3f</sub>. Deep bowls with handles or lugs. A very common shape with many varieties; in fact an enormous number of fragments seem to belong to this shape. Two small pieces were found in II, and it is common from III to VIII.

Amongst oddities that fall into no class there are several pieces with isolated knobs on the rims or sides (III-VIII), and one piece from III has a round knob with a sunken centre. An unusual form of spout was found in IV (Fig. 88 *b*). From VII there is part of the neck of a large jug with a ribbon handle running from the lip to the shoulder (Fig. 88 *c*). Several pieces from VIII have a sunken circle on the bottom, though as a rule the bottoms of the monochrome, coarse ware are flat. Also from the same stratum come two pieces of strainers.

Suspension holes, we may note a piece from III with a pair of vertical suspension holes in a projection, and in IV a piece with a horizontal suspension hole, but in general these are rare.

Ornaments or handles consisting of a projection ending in two knobs are common from III to VIII.

Though the colour of the biscuit of this ware varies from reddish to blackish according to the clay and the firing, yet it is to be noted that black polished ware occurs in III and IV, is rare in V, and does not appear in VI.

Pithoi: there is one almost complete (originally probably 1·30 mm. high and ·80 in diameter), but undecorated specimen from VII. Fig. 89. As a rule they seem to have been unornamented here. But one or two pieces are decorated with rows of knobs pinched up with the fingers. In IV there is one fragment with a slashed applied rib, and another with an applied spiral by the handle. Fragments of these occur from III to VIII.

Urfirnis ware. In IV there were five pieces, an askos handle and four bits of uncertain shapes. In V there were eleven fragments, one askos handle, three pieces of bowls with incurving rims, four fragments of ribbon handles from jugs or deep bowls, and three doubtful pieces.

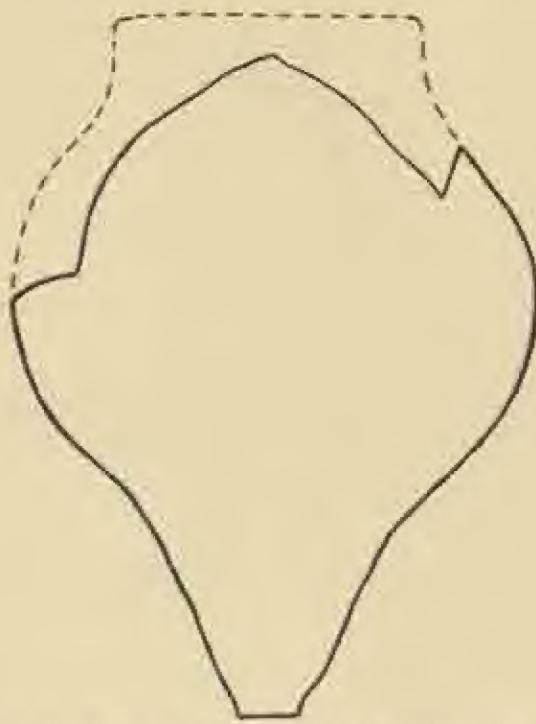


FIG. 89. Tsani Maghilla, pithos (scale 1:14).

Minyan ware. In VIII there were two fragments of the ring-stemmed goblets, and many fragments of shallow cups with handles projecting high above the rim. There were also many pieces which do not seem to be true Minyan ware, for they are apparently hand-made. They may be local imitations.

Mycenean (L.M. III) ware. From VIII comes part of a plain kylix stem.

All the principal details of the stratification that can be derived from a study of the pottery are visible in the accompanying diagram (Fig. 90), and any further explanations seem unnecessary. It is only important to note that Urfirnis ware makes its appearance in the Third Period after the end of the painted wares in the Second. This, as we shall see below, is exactly parallel to the stratification at Lianokladhi.

Settlements	I A	I B	I C	II	III	IV	V	VI	VII	VIII
Periods	FIRST			SECOND			THIRD	FOURTH		
A <sub>1</sub>										
A <sub>2</sub> B, Solid Linear	---			---	---	---				
B <sub>3</sub> A			---	---	---	---				
B <sub>3</sub> B					---	---				
F <sub>1</sub> B				---	---	---				
Urfa										
F <sub>2</sub>										
F <sub>3</sub>										
Minyan Ware										----

FIG. 9a. Diagram to explain stratification at Tsani Maghula.

*Stone Axes and other Implements.*

Celts, Type A, one from IV and another from VII.

Type E, one fragment had been picked up on the surface of the mound by a peasant previous to our excavation.

Chisels, one of Type A from IV.

Hammers, one bored specimen from IV: three complete and two broken examples of oblong, rounded, unbored hammers from I, IV, V and VII.

Round pounders or rubbers, sixteen specimens from all strata.

Polishers, two from I and VII.

Whetstones, a broken example from I.

Millstones, one fragment from I, which is an ordinary flat stone worked smooth on both sides, and two small round stones also flat on both sides which were found with barley in VI.

Flint and obsidian, knives and flakes of these were common in all strata. A small flint core to strike knives off was found in I.

*Terra-cotta Figurines.*

To the first stratum belong three important figurines. The most remarkable is the delicate female head (Fig. 91 d) which is covered with a thin white slip. The long hair is remarkably well rendered for so early a figurine: it is parted in the centre and brushed down the back. There is no mouth and the nose is very prominent. The technique is interesting: first a core of a long round stick of clay was made. To this the face was applied, then the hair, and finally the eyes and nose were added. It was in all probability the head of a standing, steatopygous female figure similar to those from Sesklo, Δ-Σ, Pl. 32, 3. Next in importance is the bearded male head (Fig. 91 a) with a ridiculously long neck. It is simply a long stick of clay with the end fashioned by the fingers into a head, and then the beard, eyes, mouth, etc., were incised. Both these were found in I B.

The flat, female figure (Fig. 91 *c*) is remarkable, for it is decorated in the white on red style, A3a. The left hand was apparently on the breast, and where the navel should be there is a hole pierced right through the figure. The legs seem to have been moulded in relief on a background of terra-cotta. There is a white stripe down the back. This was found in 1 C. The other figurines are merely fragments: two are legs from

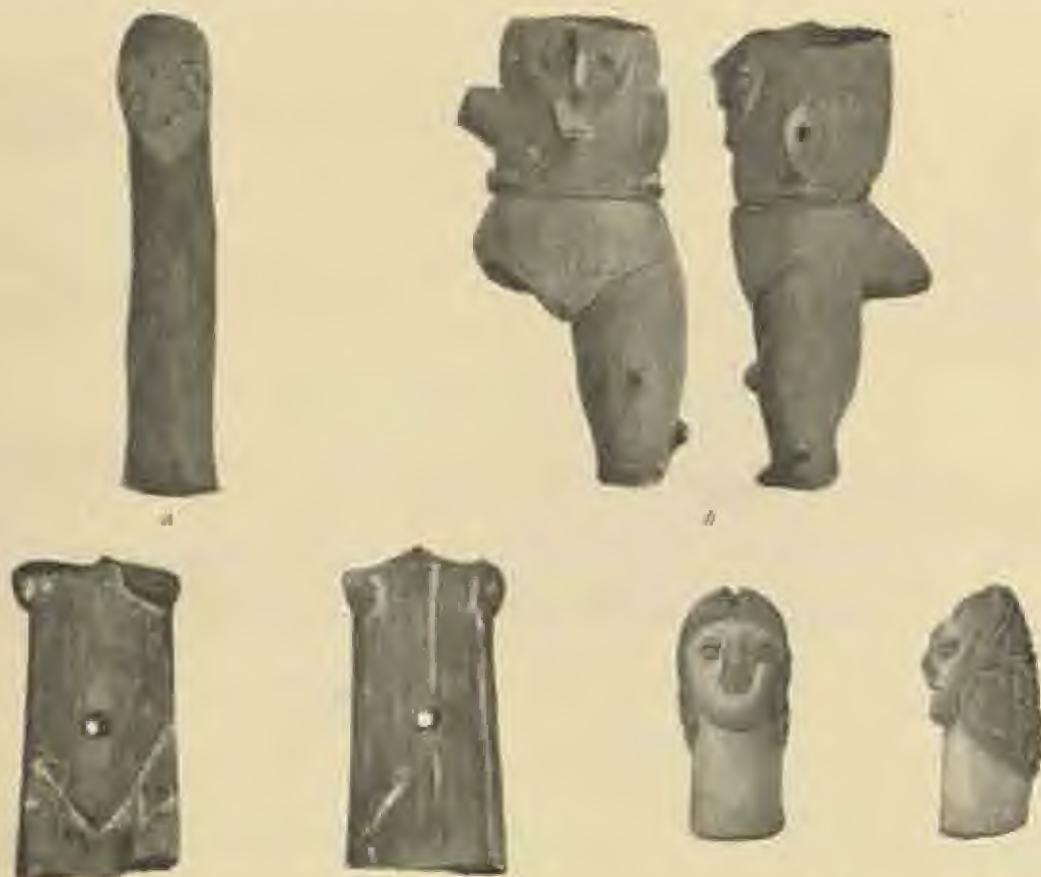


FIG. 91. Tsani Maghuli: terra-cotta figurines (scale a-c 2:3, d 1:1).

steatopygous figures, another is the left leg of a seated figure like the Sesklö (Δ-Σ, Pl. 33, 4) and Tsangli examples. It is perhaps from a male figure with the hand resting on the side of the knee. Two others are a piece of a leg, and an animal's head, and the last is a rude lump of terra-cotta with rows of oval knobs applied to its surface.

To the second stratum belongs the almost perfect female figure (Fig. 91 *b*), the body and legs of which are hollow. Noticeable is the effort to show anatomical detail in the ankle and knee bones. The projections at the side of the head are probably arms. The incised rolls above the waist may be the breasts, or more probably rolls of fat on the hips. Other remarkable points are the telescoping of the body, the omission of the navel, the emphatic rendering of the sex, and the steatopyggy. Here again the nose is very

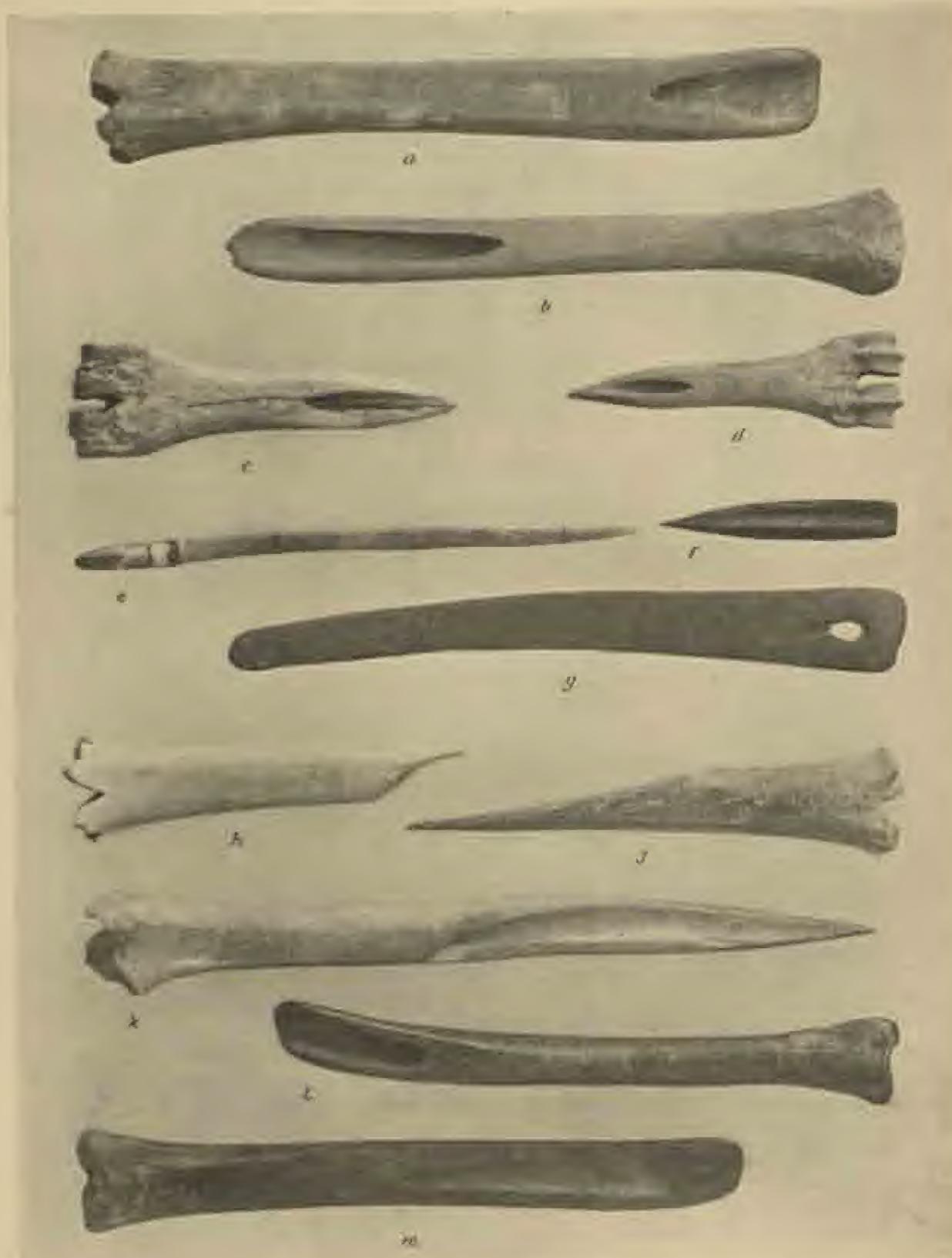


FIG. 92. Bone implements; a-g from Tsangli, h-m from Tsani Maghula (scale 9:10).

prominent and large. To the same stratum also belong a hollow foot, which may be part of an anthropomorphic vase, and a very small leg.

The lower part of a standing steatopygous female figure like  $\Delta$ - $\Sigma$ , Pl. 32-3, was found on the surface of the south slope of the mound. This is polished, but unpainted: however, it probably belongs to the period of painted pottery, and most likely to the First Period.

The only other figurine is a broken fragment of no value from IV.

*Miscellaneous Objects.*

*Bone and horn.* Pins and awls, twelve, all except one from I-IV. Fig. 92 *h-k*.

Gouges, four from IV, and one from I. Fig. 92 *l, m*.

Bored Hammer, one burnt specimen was found in VI together with barley. This confirms Tsundas' suggestion that deer horn hammers were used for thrashing corn, etc., compare also the finds from House Q at Rakhmani, and Marmariani.



FIG. 93. Impression of stone seal from Tsani. Magnified (scale 1-4).

*Stone.* In II was found the remarkable stone button seal shown in Fig. 93. On the upper side it has a bored knob in the centre. The pattern recalls those on the terra-cotta seals from Sesklo ( $\Delta$ - $\Sigma$ , pp. 340 ff., Figs. 270 ff.) and like them belongs to the First Period.

In VIII a small white stone of a flat conoid shape with two holes bored in the rim was found, cf.  $\Delta$ - $\Sigma$ , Pl. 43, 23.

*Terra-cotta.* Whorls, eight flat, eight flat conical, four high conical, and eight double conoid were found. The high conical and double conoid whorls were common in V-VIII, and the others in I-V.

Spools, four solid with splayed ends, and one bored vertically; all in early strata.

Cylinders, six, bored vertically.

Tall, oblong weights, five, bored horizontally at the top, from I-VIII.

Anchor ornament, one, cf. Fig. 140 *f*, p. 198.

There were also from I and III two small conical lumps like seals (cf.  $\Delta$ - $\Sigma$ , p. 340), and an oval lump bored at one end.

Sling bullets, nine.

## CHAPTER VII

### SOUTH THESSALY

#### A. ZERELIA.

The mound known as Zerelia (p. 10, no. 61) stands on a hill between two small lakes to the south-west of Almiros in Phthiotis (Fig. 94). Recent writers on the topography of the district<sup>1</sup> have conjectured that this was the site of Itonos and the famous temple of Athena Itonia. But the excavations of Vollgraff<sup>2</sup>, as well as our own, have shown that this view is incorrect, and that the site of the classical Itonos must be sought elsewhere. In our excavations<sup>3</sup> we found on the top of the mound a thin Greek layer, which nowhere goes deeper than one metre from the surface. In this many fragments of late black, glazed vases



FIG. 94. Zerelia from the south.

were found, which cannot be earlier than the late fourth century B.C. Directly below the Greek layer we found a rich prehistoric deposit from six to eight metres thick, of which the mound is built up. In this we dug a series of shafts down to virgin soil, along a line drawn across the mound, in order to determine the stratification of the deposit and to draw up the section shown in Fig. 95. The shafts were sunk on a system of levels, each of which was on an average about 30 m. thick, and the pottery and other finds from each level were kept separate. Thus, when each shaft reached virgin soil, a complete record was obtained of the objects found in it. A levelling instrument was in use throughout the excavation. In the sides of the shafts successive layers of reddish earth appeared. These, which are without doubt the remains

<sup>1</sup> *Ath. Mitt.* 1906, pp. 15 ff.; *B. C. H.* 1893, pp. 473 ff.  
<sup>2</sup> *B. S. A.* xiv, p. 224.

<sup>3</sup> *Ath. Mitt.* 1908, pp. 180 ff.; *Class. Review*, 1908, pp. 134 ff.; *Liverpool Annals*, 1908, pp. 118 ff.; *B. S. A.* xiv, pp. 197 ff.

of huts of wattle and daub destroyed by fire, divide the mound into eight strata. They were not obvious at first during the excavation, but the system of levels enabled us afterwards to correlate the settlements with the pottery and

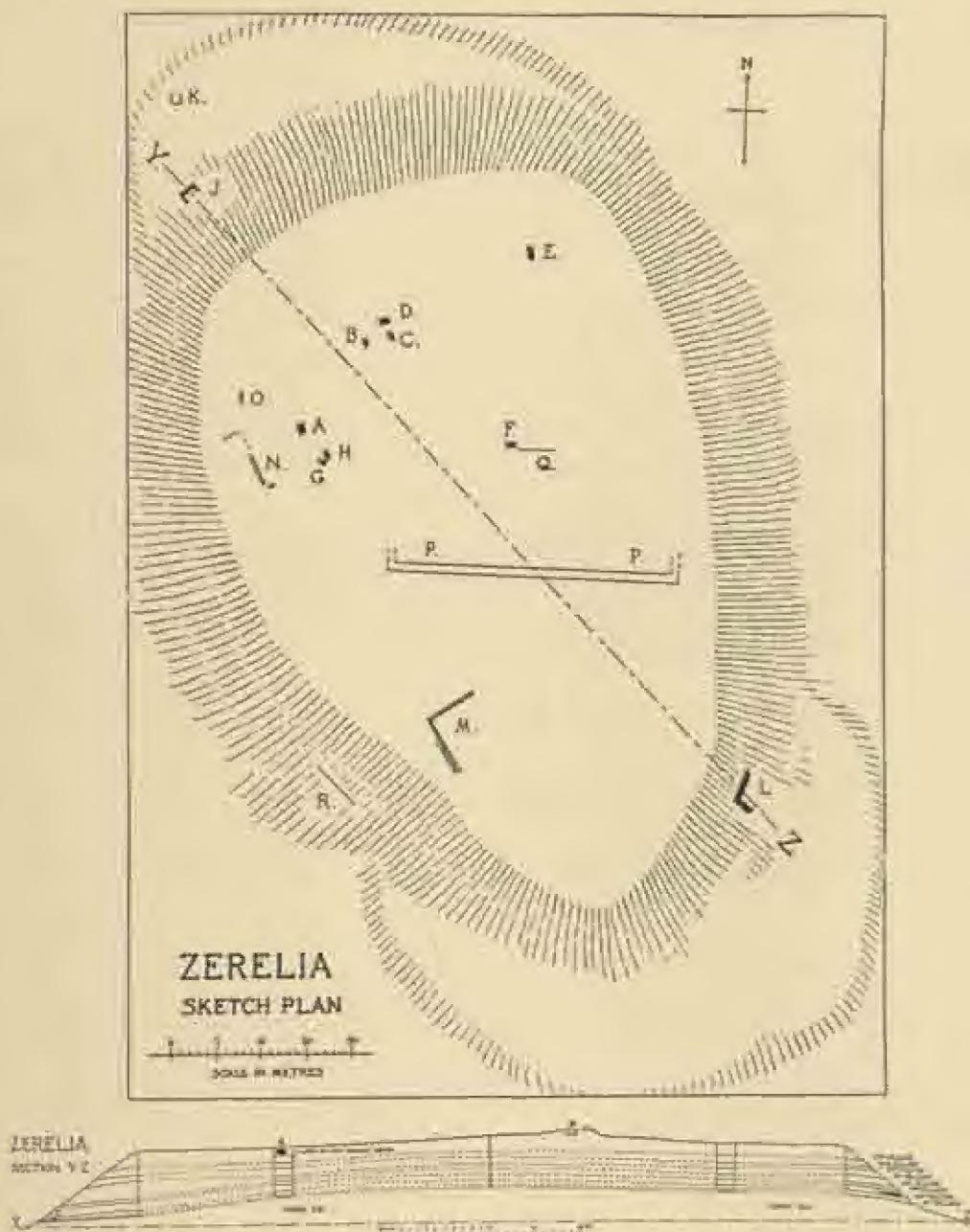


FIG. 93. Zerelia: plan and section of the mound, *M-R* Greek walls, *A-H* earthen tombs.

other objects. We thus assume that on this site eight successive settlements were built one on top of another. These provide a convenient basis for the

description of the finds and a discussion of the differences observed in them at various levels. But it must be remembered that these settlements, like those at Tsani and Tsangli, are to be regarded mainly as methodological conveniences.

We excavated here in June 1908, and the finds are now in the Museum at Almiros and a selection of duplicates in the Volos Museum.

*Pottery.*

Unfortunately the pottery found at Zerelia, which is nearly all hand-made ware, is very much broken and, though it was possible to divide it into the various classes, it was very difficult to determine with any certainty the shapes of the vases.

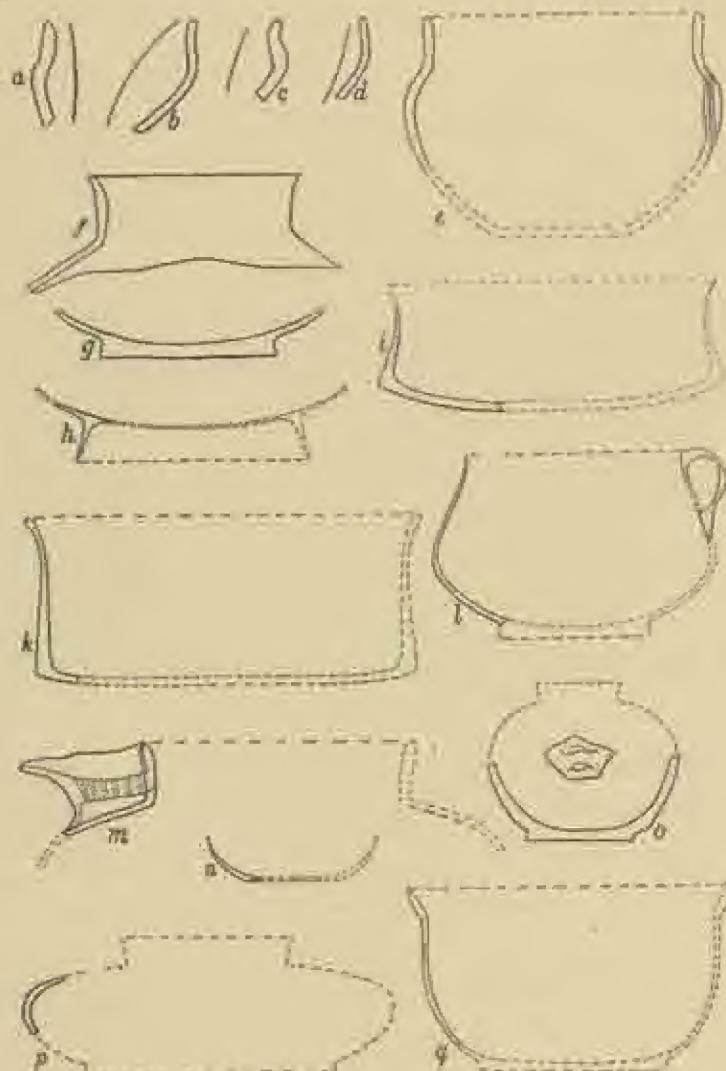


FIG. 96. Zerelia; shapes of pottery (scale 1:4).

A1. Monochrome red ware. The clay is well purified and, as a result, the biscuit is thin, often only 0.02 m. thick. The vases are as a rule well

polished, and the surface is of a deep red colour, which is perhaps to some extent due to the application of a red pigment. Low, round (Fig. 96*l*, on the handle) or oblong knobs form the sole decoration. The commonest shape is that typical of this ware, (*a*) a wide, open dish with incurving sides and splayed lips on a high base, and tubular ribbon handles (Fig. 96*i*).<sup>1</sup> Other shapes are (*b*) bell-shaped mugs, (*c*) wide-bodied, narrow-necked bowls, and (*d*) deep, open bowls (Fig. 96*l, n, p, q*). Raised bases, as usual, are common (Fig. 96*h*). There is also of this class a group of larger vases of less well refined clay. The biscuit is thick, full of white granulations, of a dull red colour and not much polished. The principal shapes are (*e*) narrow-necked bowls, Fig. 96*f, o, p*, some of which have vertical suspension holes, (*f*) wide, open dishes with flat bottoms and almost vertical sides, Fig. 96*k*. Raised bases occur, and there is one example of a sieved spout from a jug, Fig. 96*g, m*. There are also fragments of ribbed vases, like one from Sesklo, Δ-Σ, p. 166, Fig. 79.

A3a. White on red ware, with patterns in matt white on a polished red ground; a very few sherds were found in I and II.

A3b. Red on white ware. The biscuit, which is pinkish and full of white granulations, is covered by a slip that varies in colour from cream to white. Most of the fragments belong to the first or South Thessalian category, and resemble the Tsangli style. They differ from the Tsangli style in that the rays that branch off from the main zigzag pattern have rounded and not spiked ends, Figs. 97*a, c, h, k, m, n*. Other common patterns are shown in Figs. 97 and 98. There are two shapes, the commonest is (*a*) the typical shape of this ware, a wide, open dish with a flat bottom and almost vertical sides, Fig. 96*h*; the other is a narrow-necked bowl or jug, Fig. 96*f, g, o*. The vases of shape (*a*) are painted inside and out as usual, and samples of the patterns on the bottoms are shown in Fig. 98*a, b, c, d, h, i, k, l, o, p, q, r, s, t*, while the other patterns are from the sides.

Of the earlier, or solid style, of the second or West Thessalian category there was one sherd in I.

A3y. Red painted ware. The fabric is similar to that of the finer vases of A1 and the patterns are similar to those of A3b, but they are painted directly on the clay without any intervening slip. Not many pieces were found, the most important is part of a jug, Fig. 98*e*, and other fragments seem to come from bowls.

These four classes of pottery are contemporary and are the characteristic wares of the earlier settlements. They abound in the first four, are rare in V, still rarer in VI, and a few sherds of A3b were found even in VII.

B1. See I<sup>3</sup> below.

B3a. Dhimini ware. Of the first category (Fig. 99) there were three sherds in II, two in III, three in V and three in VI. Of the chocolate on cream style of the second category we found five sherds, and of the black on red style fifty-six, distributed from II to VII, the greatest quantity being found in III. Of the third category we found a few sherds in III. The sherds are so small that it is hard to determine what shapes are represented. Most seem to be pieces of the typical shape—deep, wide bowls narrowing in to

<sup>1</sup> The shape shown in the illustration is incomplete; it should have a high base like that seen in Fig. 40*g*.

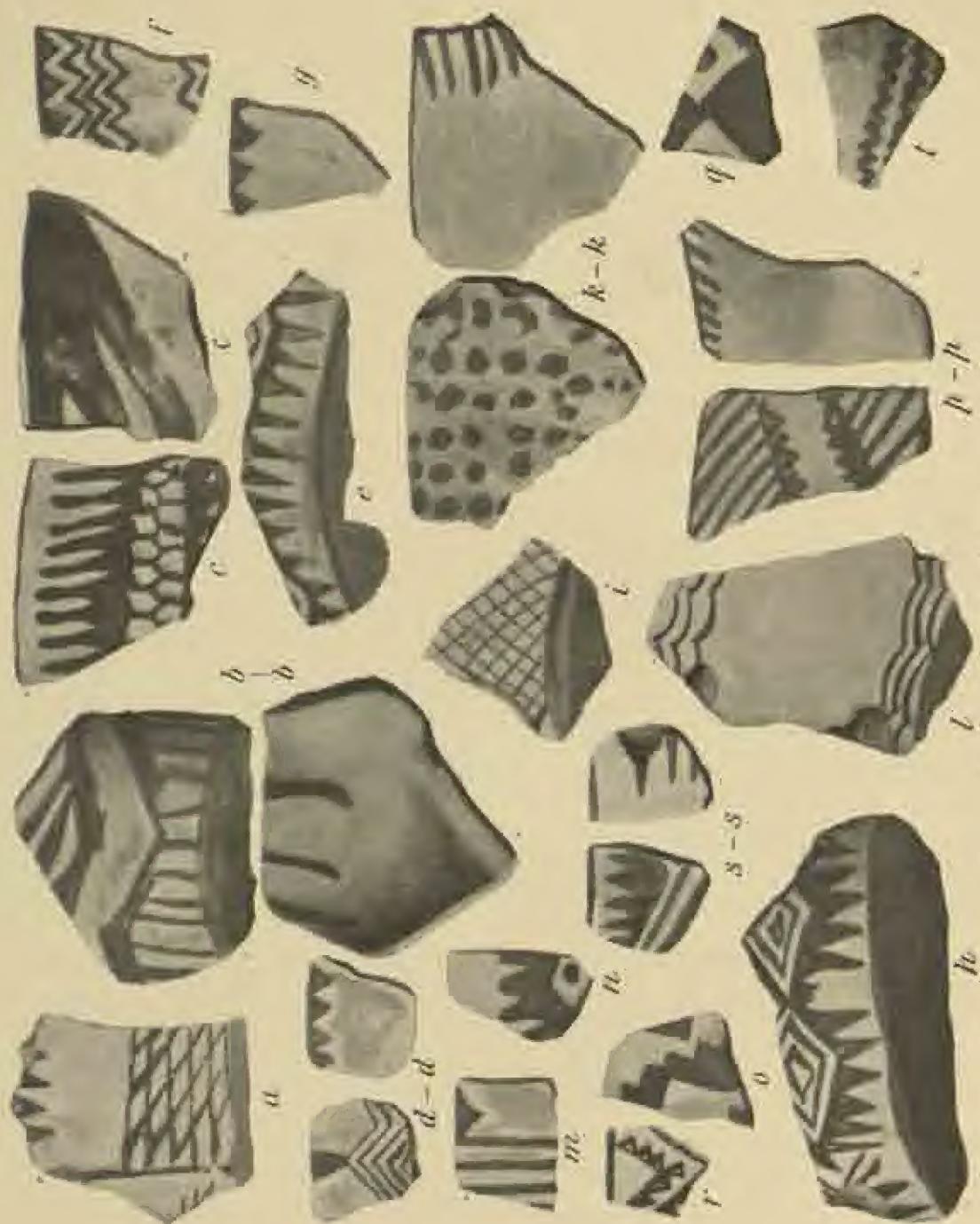


FIG. 97. Zerelia; red on white (Arg) ware (scale 1:3).



FIG. 98. Zerelia: A38 white (a-d, f-w), 83Y ware (e-h) (scale 1:2).

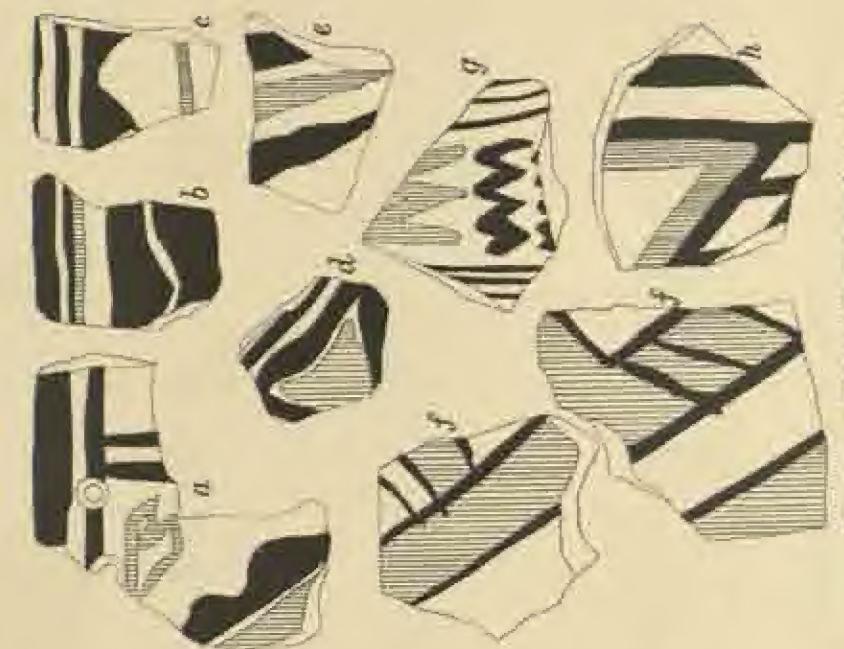


FIG. 99. Zerelia: 83Y ware (scale 1:2).



FIG. 99. Zerelia: 83Y ware (scale 1:2).

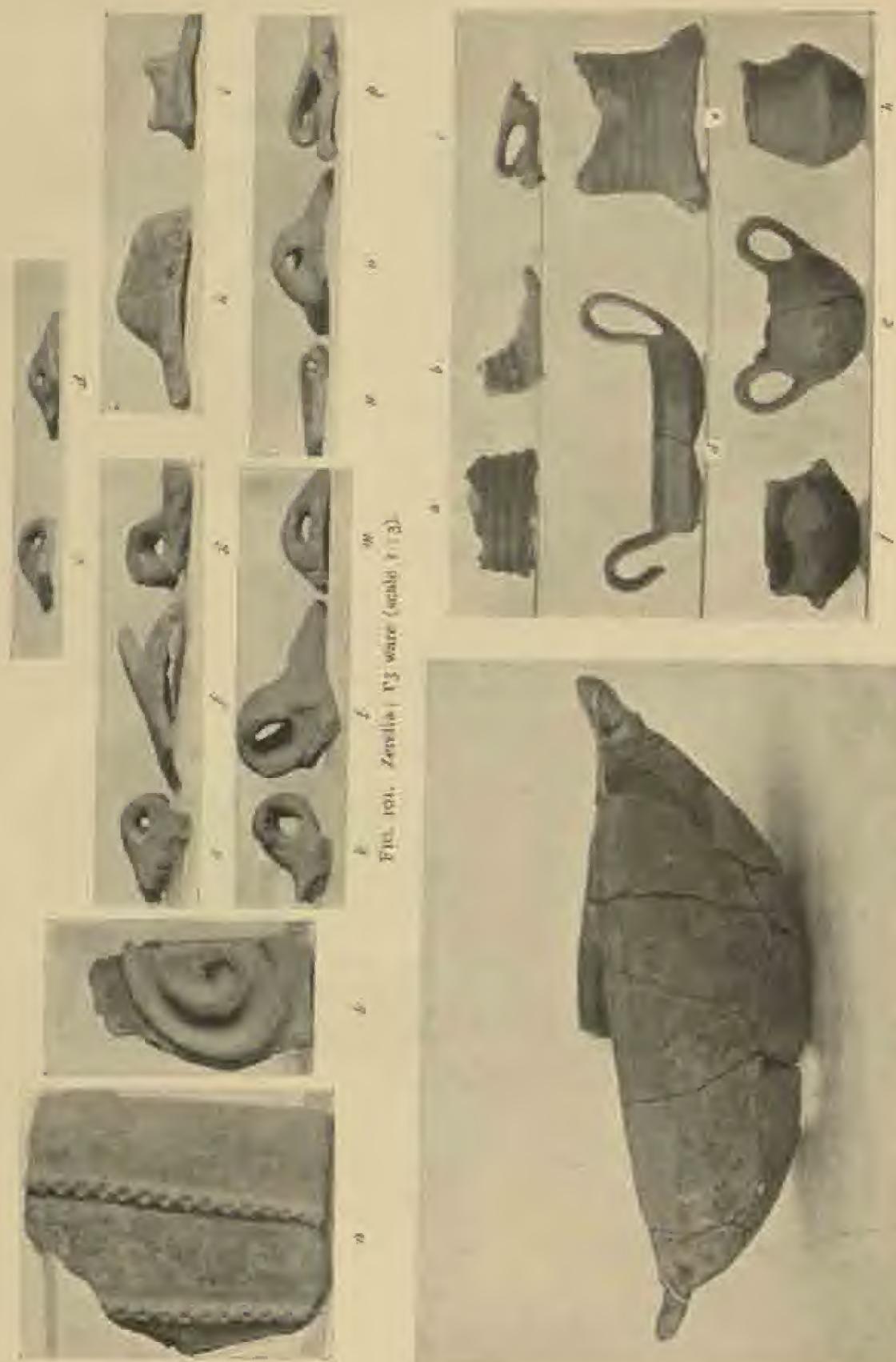


FIG. 103. Zerelia: Minyan ware (a-c, h). Ting ware (d-f, g) (scale 1:3).

FIG. 103. Zerelia: Ting bowl (scale 1:3).

FIG. 103. Zerelia: Minyan ware (a-c, h). Ting ware (d-f, g) (scale 1:3).

a small flat base and painted inside and out. Some fragments seem to be from fruitstands.

B3y. Three-colour ware, a few sherds were found from III to VII, Fig. 100. Most of the sherds seem to be from deep bowls which have a tongue pattern hanging down from the lip inside. A few pieces seem to be from fruitstands, e.g. Fig. 100g.

F2. Incised ware. Some fragments are of rough, unpolished clay, but most have a blackish-brown surface more or less polished. All the incisions show traces of white filling. The patterns, which resemble the incised ware of Tsangli, are rendered by lines and dots: spirals do not occur. One sherd shows traces of red paint in the blank spaces between the incisions. The only shape that can be recognised is an open bowl with one or more lugs, cf. Fig. 101f. The sherds found were distributed from IV to VII, with a slight predominance in IV. Thus, here also we see that this ware occurs with B wares.

F3. Coarse monochrome ware. As the pottery classed by Tsundas as B1 is indistinguishable from any other coarse hand-made ware, we may consider all the coarse monochrome ware from Zerelia as belonging to F3, especially since nearly all of it is later than the painted pottery. The biscuit is grey at the fracture and on the outside is reddish, black or yellow-brown, perhaps most often the latter. In general the ware is coarse and the vases large, but some pieces, particularly of the black variety, are well made. The black and yellow-brown kinds are usually polished and the reddish variety is not. Amongst this ware we can distinguish the following shapes:

F3a. Two-handled cups, Fig. 103f,g. Many were found in VIII.

F3b. Shallow bowls with raking handles, a few doubtful pieces were found.

F3y. High, wide bowls with small vertical handles with a long attachment below against the body of the vase, Fig. 101a. The biscuit varies in colour from brick-red to black and is as a rule polished.

F38. Shallow bowls with straight or incurving rims and horizontal suspension holes. A complete example of this shape (Fig. 104a)<sup>1</sup> was found in VII with the peculiar vase (Fig. 104b) and the complete male figurine (Fig. 110). Other fragments which perhaps belong to this shape are shown in Fig. 96a, b, c, d.

F3e. Narrow-necked bowls. This shape seems to have been very common and to have had many varieties. An example with vertical suspension holes in the thickness of the clay is shown in Fig. 96e, and there were some pieces of well-polished specimens with the upper part of the body decorated with oblique ripples, cf. Δ-Σ, p. 278, Fig. 211 from Sesklo.

F3c. Wide, open bowls with flat bottoms and splayed lips, and horizontal loop handles, we found an almost perfect example (Fig. 102) in VIII of grey clay, not much polished. There are also other pieces that seem to be of this shape.

An exceptional shape is shown by the other vase found in the burnt and decomposed mud-brick of a hut of the seventh settlement, together with the bowl of shape F38 and the terra-cotta figurine, Fig. 104b. It is of brick-red

<sup>1</sup> This measures about 28 in. across.

clay and highly polished, and stands about 40 m. high with a neck that is raised, probably with intention, about 0.4 m. more in front than behind. The small lugs on either side of the neck are pierced with two holes, either for the attachment of a lid or more probably in view of the shape of the neck to make it easy to hang up the vase. An odd point about the two flat handles is that they are attached in a slanting position. The photograph does not show this very well, but they slant upwards and backwards from the body.

Some pieces seem to come from broad, flat plates with a low rim, like the typical shape of Fig. 18, to which class they may, indeed, belong.

No other shapes can be determined with any certainty. The majority of the vases of this class were probably large bowls, flat-bottomed dishes and perhaps also jugs. They are very occasionally decorated with one or two incised lines, and a dish with crossed lines incised on the bottom inside is to be noted. The handles are often very rudimentary (Fig. 101 c, d, h, i, m, n, o, p), seldom large enough for the insertion of a finger but sometimes of a more practical type (Fig. 101 a, g, k).

This ware is plentiful in V, VI, VII and VIII, it is rare in IV, very rare in III, and two or three sherds were even found in II.



FIG. 104. Zerelia; Fig. 13 vases from the seventh settlement.

Pithoi. These are fragments of large, thick, store jars. They are decorated with raised lines of applied clay, either slashed across, Fig. 101 l, or pinched in with the fingers, Fig. 101 a, and sometimes a raised spiral is found, Fig. 101 b, which is at times slashed. Fragments of these were common in IV-VIII, but do not occur in I, II or III. This agrees with the conclusions derived from other sites that pithoi do not occur in the First Period.

Δ(a). Three sherds, which resemble the ware of this class from Marmariáni, Sesklo, Theotoku and Skyros, were found in VIII. They are not exactly alike, but the similarity between them is indisputable.

Minyan ware. Many pieces of this ware were found in VIII. Three shapes can be distinguished: (a) ring-stemmed goblets (Fig. 103 a, b, e, f), (b) shallow, wide cups with handles projecting high above the rim (Fig. 103 d), (c) small one-handled mugs (Fig. 103 h), only one of which was found in Tomb D. It is noticeable that of the pieces of the first shape some are highly polished and of yellow-brown and not grey clay. Such fragments are common amongst the unpublished pottery from Orchomenos in the Chæronea Museum and it is possible that they are earlier than the sherds of grey ware.

Mycenean ware. Fifteen sherds of Late Minoan III pottery were found well mixed with the ware of the eighth settlement. Some of these are pieces of the kylikes typical of this ware.

The evidence given by the stratification at Zerelia seems to show that painted pottery was not abruptly abandoned, but that its use gradually died out. It is true that in the later strata the evidence consists of one or two isolated sherds and that after the fifth settlement painted pottery was very scarce. Consequently it would be quite allowable to take a broad view and say that for all practical purposes painted pottery was not in use after the fifth settlement. At all events it is certain that from the end of the fourth settlement onwards the bulk of the pottery in use at Zerelia was of the class called Π<sub>3</sub>. Further, it must be noticed that there is no clear break between the plain ware of the early strata (A1) and the coarse, monochromic ware of the later (Π<sub>3</sub>). Also it seems that after the end of the First Period no later painted ware was ever common here, for few sherds of painted wares of the Second Period were found.

The succession of the different wares may be shown in tabular form thus:

Settlements	I	II	III	IV	V	VI	VII	VIII
Periods	FIRST			SECOND		THIRD	FOURTH	
A <sub>1</sub>								
A <sub>1</sub> β								
B <sub>2</sub> ρ								
B <sub>3</sub> β, B <sub>3</sub> γ								
B <sub>1</sub> , Π <sub>3</sub>								
Π <sub>2</sub>								
Minyan Ware								
Late Minoan III								
Δ(a)								

FIG. 103. Diagram to illustrate the strata at Zerelia



FIG. 106. Zerelia; building in second settlement.



FIG. 107. Zerelia; pithos from Tomb B (scale 1:3).



Fig. 108. Tomb H.



Fig. 109. Tomb C, D.

• Tomb H.

## Architecture.

Of the actual huts which composed the settlements beyond the remains of mud-brick and wattle and daub already mentioned, we found no traces to enable us to determine their shape. The bricks were made of coarse, unpurified clay well mixed with grass or straw. But in the second settlement, towards the south-east corner of the mound, we found the remains of a well-preserved building (Plan *L*). Thick walls of mud-brick (65 m. thick) were still standing to a height of 80 m. on a dry course of slabs (Fig. 106), and at the ground level outside were faced with upright slabs to prevent injury from rain and damp. We were not able to lay bare all this building, but from the part excavated it is clear that it is angular and not round. On the opposite side of the mound (Plan *J*) we found remains of walls of mud-brick very badly burnt and decomposed, which also belonged to the second settlement. A little below this, and in the field at the foot of the mound, we discovered traces of a round building (Plan *K*) with an opening to the north. The purpose and date of this building are obscure. Some human bones were found in it, which, to judge by some coarse, presumably Byzantine sherds with them, are apparently of late date. It is, however, possible that this is the ruin of a tholos tomb like those at Marmurani and Sesklo.

## Tombs.

In the top of the remains of the eighth settlement we found eight cist tombs (Plan *A-H*). These were built with four slabs for the sides (Fig. 108 *c*), and roofed with a fifth, but one tomb (*H*) had two slabs on one side. In every case the skeletons, which lay on their left sides, were in a contracted attitude. Of the eight tombs three, *C*, *E* and *G*, contained nothing but one skeleton each.

Tomb *A*, in this was a conical terra-cotta whorl.

Tomb *B*, in this beneath half a wheel-made pithos (Fig. 107) of coarse red ware with two holes bored in the bottom, was the skeleton of a child, whose head and chest were covered by the vase. With the bones were four largish glass beads, five small paste beads, one bronze bead, and a piece of twine with a small piece of bronze attached. These probably come from a string of beads hung round the neck of the body when it was buried.

Tomb *D* contained a small mug of Minyan ware, the handle of which had been broken off before it was placed in the tomb. The skeleton was probably that of a woman.

Tomb *F* contained (Fig. 108 *b*) a bronze knife (0.85 m. long) with a flat tang for a wooden handle and bent up slightly at the end, a barbed flint arrow head, and a boreal celт of Type *E* (Fig. 111 *f*). The skeleton seemed to be that of a full grown man.

Tomb *H*, this contained only a flint chip: the skeleton was probably that of a woman. Fig. 108 *a*.

There is no definite evidence to show whether the people who made these cist tombs lived on the spot or not, but the presence of Minyan ware both in the tombs and in the eighth settlement at least suggests that the tombs are contemporary with part of that settlement.

*Terra-cotta Figurines.*

In I only two were found. One (Fig. 109 *d*) is a fiddle-shaped figure: the head and legs are missing, but it was apparently female. The other is a leg (Fig. 109 *g*) from a seated steatopygous figure like those from Sesklo, Δ-Σ, Pl. 33, 4-6.

In II there was only one, the head of an animal (Fig. 109 *A*) like an example from Sesklo, Δ-Σ, Pl. 34, 11.



FIG. 109. Zerelia; terra-cotta figurines (scale 1:2).

In III we found a fragment of a steatopygous figure like those from Sesklo, two rude female figures (Fig. 109 *c*, *e*), one of which recalls an example from Sesklo, Δ-Σ, Pl. 33, 1, and two shapeless figures, which recall the ruder statuettes from Dhimini, Δ-Σ, Pls. 35, 6, 7; 36, 1-5.

To IV belongs a very good example of the steatopygous type, unfortunately much damaged (Fig. 109 *a*). It is of the same clay as the red on white ware (Λ38), and shows the same style of decoration. The whole figure

was covered with a white slip, on which patterns were painted in red: those still preserved on the thigh represent chevrons.

In VI was found a rude female figure (Fig. 109 *f*) similar to an example from Sesklo, Δ-Σ, Pl. 35, 1.

To VII belongs a columnar statuette (Fig. 109 *b*), which was painted in the red on white style, a shapeless torso (cf. Fig. 109 *k*) with hole in the top for the insertion of a head like the examples from Rakhmani (Fig. 25, p. 49) and Dhimini, Δ-Σ, Pl. 36, 1-3, and the seated male figure shown in Fig. 110. This remarkable statuette, which is 12 m. high, is practically perfect, and represents a seated ithyphallic man with his hands on his knees and looking upwards. The feet are flat and pointed, the nose and ears are prominent, and the top of the head runs up into an odd peak.



FIG. 110. Zerelia: terra-cotta figurine (scale about 1:2).

The figure is hand-made, and though the technique is rude, its execution is vigorous and decided. This is the first prehistoric figure of the kind found in Greece and its phallic character stamps it as the work of a people alien to that which made the Mycenean terra-cotta figurines.

To VIII belongs one figurine (Fig. 109 *k*) with rudimentary arms and almost exactly like the shapeless figures from Dhimini, Δ-Σ, Pl. 35, 6, 7.

In addition we found on the slopes of the mound five other figurines of which the stratification is uncertain: one is like Fig. 109 *b*, two like Fig. 109 *k*, one like Fig. 109 *h*, and the other (Fig. 109 *i*) is a small head similar to a head from Sesklo, Δ-Σ, Pl. 34, 8.

The stratification of these figurines, as far as it goes, agrees with the results obtained at Sesklo and other sites, that the well made steatopygous figures are early (First Period) while the rude, shapeless type is late (Third and Fourth Periods). Even the seated male figure from VII, when compared with the steatopygous figures, though rather more freely handled, has a rough and not a smooth surface, and seems less carefully modelled as regards details.

Stone figurines. In VI there are two fiddle-shaped figures.

## Stone Axes and other Implements.

A large number of celts were found which fall into the following classes :  
 Type A, eleven specimens, and thirteen fragments. Fig. 111 *g, k*.  
 Type B, six specimens, one of which is very large and thick. Fig. 111 *a, d*.  
 Type C, six specimens, and three fragments. Fig. 111 *m*.  
 Type D, two specimens, both from II. Fig. 111 *l*.

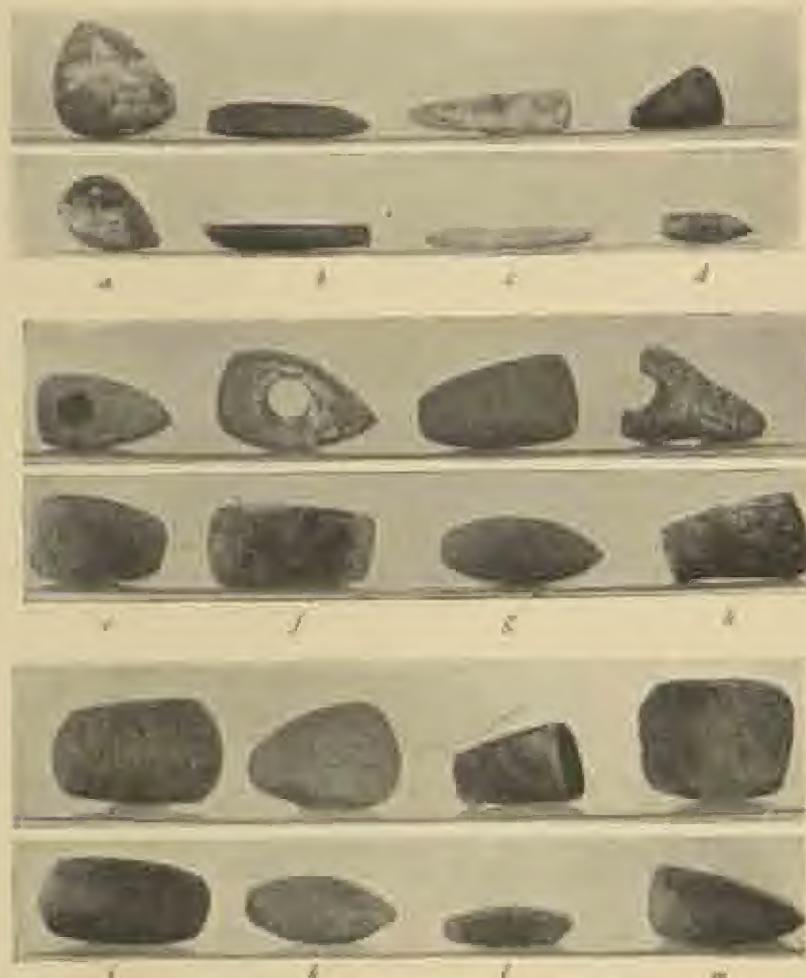


FIG. 111. Zerelia's celts (scale 1 : 3).

Type E, bored celts (Fig. 111 *e, f*), three complete, one of which is only partly bored, and nine fragments. With one exception all are from VIII, including one from Tomb *F*. Of the fragments one is very highly polished and widens round the bore hole, Fig. 111 *h*, like one example from Sesklo, Δ-Σ, Pl. 41, 9<sup>1</sup>.

Chisels, there were three of Type Δ, Fig. 111 *l*, and one of Type A, Fig. 111 *c*.

<sup>1</sup> Cf. pp. 71, 215.

In addition there were fifteen fragments of celts too much broken to classify.

Club heads, bored, three of a spherical shape, cf.  $\Delta$ - $\Sigma$ , p. 322, Fig. 246. Two are from VII, and the other was found in the surface earth at the bottom of the mound.

Hammers, oblong with rounded ends, one complete, and five broken, Fig. 111*i*.

Round pounders, twenty-two.

Grinders, seven oblong, and six flat and round.

Whetstones, one small, and two large.

Polishers, two flat and round, and one oval with a handle possibly for polishing pottery.

Millstones, about fifty, as a rule of vesicular lava which is found near Phthiotic Thebes: they are usually saddle querns, but a few are broad, flat, and irregular in shape, and worn on both sides.

Here again it is to be noted that the bevelled celts of Type  $\Delta$  occur in the First Period, while the bored celts of Type  $\kappa$  are found only in the Fourth Period.

In all the settlements obsidian knives and chips were found, but those of flint were scarce, though there was an arrow head in Tomb *H*.

#### Miscellaneous Objects.

*Bone and horn.* Pins or awls, seventeen.

Needle (?), a deer horn pierced at one end.

*Stone.* Pendants, five small pebbles with holes through them, either natural or artificial; a small pendant with a hole bored at one end.

Bead, one cubical bead of crystal, partly bored through.

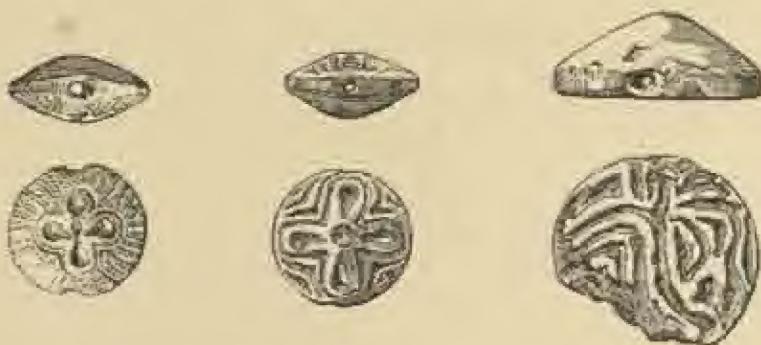


FIG. 112. Steatite gems: *a* from Zerelia, *b*, *c* from Melos (scale 1:1).

Gems, one lentoid steatite gem bored along its diameter. This has on one side in *intaglio* a kind of cross surrounded by rays (Fig. 112*a*). This in design is very similar to steatite gems from Melos (Fig. 112*b*, *c*) which seem to have been found with Cycladic marble statuettes. Thus the Zerelia gem probably dates from the early Cycladic period, but unfortunately it was

found on the north slope of the mound so that we do not know its stratification.

*Glass and paste*, four beads of the former, and five of the latter from Tomb *B*.

*Terra-cotta*. Whorls, twenty-two flat, and two conical, one of which is from Tomb *A*.

Sling bullet, one.

#### *Metal.*

*Bronze*. There is in the Museum at Almiros a double axe of bronze, which was found on the surface by a peasant.

Knife, one from Tomb *F*, this resembles a little those from the tombs at Sesklo, Δ-Σ. Pl. 4, 9, 13, 14.

Beads, in Tomb *B* there was one bronze bead and another small fragment of the same metal.

#### B. PHTHIOTIC THEBES.

The site of the city of Phthiotic Thebes<sup>1</sup> lies on the southern slopes of the hills that bound the Krokian plain on the north, about an hour from the sea where the modern village of Néa Anchialos (Νέα Ἀγχιαλος) has been built by the site of Pyrasos. In 1907 and 1908 Dr Arvanitopoulos, working for the Greek Archaeological Society, made trial excavations here, especially on the acropolis<sup>2</sup>. The acropolis (p. 10, no. 68) is built on a rocky knob which slopes sharply to the east, and is surrounded by a wall of large rough stones, the date of which is uncertain<sup>3</sup>. In his excavation Dr Arvanitopoulos found four strata, which he numbers from the top downwards: the first and second which he calls Byzantine and Graeco-Roman need not detain us. The third is the Hellenic stratum to which belong the ruins of a temple. The foundations of this on the west rest on the natural rock, and on the east on an earlier deposit held up on the sloping rock by the wall already mentioned. At the bottom of this third stratum was a thin layer, which to judge by the finds dates from the period of Geometric pottery. In it, in addition to later and archaic Greek objects, were numerous bronzes, and some sherds of Geometric (Dipylon) and Mycenaean (L.M. III) pottery. The fourth or prehistoric stratum the excavator divides into four layers numbered from the top downwards. The whole prehistoric deposit varies owing to the sloping of the rock from 1·65 mm. to 2·20 mm.<sup>4</sup> in depth. In the first layer was a cist tomb like those at Sesklo, Dhimini and Zerelia: it contained only a skeleton in a contracted attitude. The pottery was mostly unpainted, and apparently belongs to class Γ<sub>3</sub>. The next layer, 1·45 m. to 1·60 m. thick, yielded painted and incised pottery, especially of classes Γ<sub>2</sub> and Γ<sub>1γ</sub>. In it also is a wall built of small stones, which seems to have formed

<sup>1</sup> Stachlin, *Ath. Mitt.* 1906, pp. 5 ff., Pl. 1.

<sup>2</sup> Ηρακλείδης, 1907, pp. 66 ff.; 1908, pp. 163 ff.

<sup>3</sup> *Ath. Mitt.* 1906, Pl. 2, p. 6; Fig. 1; *H. S. A.* xiv, p. 724.

<sup>4</sup> Arvanitopoulos gives (Ηρακλείδης, 1908, p. 180) 1·90-2·20 mm., but his figures for each layer add up to 1·65-2·20 mm.

part of a prehistoric house'. The third layer, '30 m. to '40 m. thick, does not differ as regards the pottery from the second. The fourth and lowest layer, '30 m. to '50 m. thick, was rich in painted ware of the Dhimini style (B<sub>3a</sub>), amongst which sherds of the first category were the commonest. This is in brief the excavator's own report. The most important finds, bronzes, figurines, and pottery are in the Volos Museum, but there are some duplicates in the Almiros Museum, which include the few Mycenaean sherds found. It must be admitted that a study of the finds as displayed according to their stratification in the Volos Museum does not justify us in basing any conclusions on them unsupported by evidence from other Thessalian sites. This is not surprising when we reflect that the prehistoric deposit is very thin (1·65-2·20 mm. thick) and rests, not on a level surface as at Sesklo, Tsani or Tsangli, but on a sloping rock. Thus the stratification seems much confused<sup>1</sup>, and consequently conclusions drawn from it do not rest on firm ground<sup>2</sup>.

### Pottery.

The principal kinds of pottery found are as follows:

A<sub>1</sub>. Not more than six sherds.

A<sub>3B</sub>. Very rare, most of the sherds are in the Sesklo style of the first category, and there is one small fragment of the earlier style of the second or West Thessalian category.

B<sub>2</sub>. See F<sub>2</sub>.

B<sub>3a</sub>. Dhimini ware, common, but the majority of the sherds belong to the first category.

B<sub>3B</sub>. Rare.

B<sub>3Y</sub>. Rare.

F<sub>1Y</sub>. Moderately common.

F<sub>2</sub>. Incised ware, Fig. 113, moderately common. The variety of this ware discovered here presents some difficulties. As seen in the illustration the patterns resemble those of B<sub>2</sub> and B<sub>3a</sub>, but the coarseness of the incisions recalls the F<sub>2</sub> ware from Tsangli. Also a few sherds like others from Tsani and Zerelia are painted in the style of the F<sub>1Y</sub> ware in the blank spaces between the incised belts. Further, the ware here seems to have been found with F<sub>1Y</sub> sherds, and therefore should belong to the Third Period, but the stratification is confused. We must wait for further excavation to throw light on the sequence of these incised wares.

F<sub>3</sub>. Very common.

Minyan, one sherd in the first or latest layer.

Mycenaean (L.M. III), about half a dozen sherds.

<sup>1</sup> Brierley, 1908, p. 175, Fig. 5; this is presumably 'the Mycenaean palace, which occupied the site of another palace of the neolithic age' announced by Arvanitopoulos in *Mémoires II* (1908, p. 99).

<sup>2</sup> Cf. N. Vianopoulos in the newspaper *Imro*, 1908, 15/28th Feb. 1910.

<sup>3</sup> Cf. Pfahl, G. G. d. 1910, p. 843, note 1.



FIG. 103. Phthiotic Thebes; incised ware, P2 (scale 2:3).

*Terra-cotta and Stone Figurines.*

There are fifteen terra-cotta figurines from this site, all of the later shapeless types like those from Dhimini and Rini; they were mostly found in the first or latest layer. With these in the Volos Museum are two fragments of ordinary Mycenaean figurines.

Six fiddle-shaped stone figurines were found, which are similar to those from Dhimini and Sesklo, but have little resemblance to Cycladic types.

*Stone Axes and Miscellaneous Finds.*

In the first or latest layer there are several bored celts of Type E, in the second and third one each. Other implements common to all strata include celts of the usual types except Type Δ, terra-cotta whorls, flint and obsidian knives, and bored deer horn huts and hammers.

From a survey of the finds as exposed in the Museums at Volos and Almiros it appears that the prehistoric settlement on this acropolis began in the Second (Neolithic) Period, and lasted through the Third (Chalcolithic) Period to the end of the Fourth Period (Bronze Age) as shown by the cist tomb, and the fragments of Minyan and L.M. III pottery.

*C. MAGNIA AIDHINOTIKI.*

This mound (p. 10, no. 60, Δ-Σ, p. 11, Fig. 2) lies in the lower part of the Krokian plain about half an hour from the sea, and midway between Almiros and Phthiotic Thebes. Tsundas made some trial pits here in 1905, and sank them about five metres from the surface, but did not reach virgin soil. In 1907 Dr Arvanitopoulos dug some pits here<sup>1</sup>, but reached no depth. The mound is very large and high, and would probably repay systematic and patient excavation. Most of the sherds found were apparently F<sub>3</sub>, but one sherd of F<sub>1a</sub>, three of F<sub>1y</sub>, and one of F<sub>1d</sub> have been found here<sup>2</sup>. Mattmalerei<sup>3</sup> and Minyan ware also occur here.

*D. KARATSADAGILI.*

Tsundas illustrates one vase<sup>4</sup> of A<sub>3</sub>β found at this mound (p. 10, no. 62).

*E. DAUDZA.*

At the place called Yuuzlar (p. 10, no. 63) near this village, where there are the remains of a settlement of the First (Neolithic) Period, the small terra-cotta head shown in Fig. 164 has recently been found. This, though somewhat similar to other heads of the period from Sesklo (Δ-Σ, Pl. 34, 8), Tsangli (Figs. 74b, 76c), and Zerelia (Fig. 109i), has a marked character of its own. The nose as usual is very prominent, and the eyes are made of applied blobs of clay with a gash in the middle. Most odd, however, is the head-dress. On the top is a round cap-like



FIG. 164. Terra-cotta head from Daudza (scale 1 : 1).

<sup>1</sup> Digenakis, 1907, p. 171.

<sup>2</sup> Δ-Σ, pp. 241, 244, 247.

W. & T.

<sup>3</sup> Δ-Σ, p. 240.

<sup>4</sup> Δ-Σ, p. 181, Fig. 85.

object which is pierced all over with holes. Whether this is really intended as a hat or not is uncertain. Since the mound is of the low type, and only sherds of  $A_1$  and  $A_3\beta$  are to be found on the surface, this head probably belongs to the First Period.

F. MARBLE STATUETTE FROM AVARITSA (MELITAEA).

There is in the Fitzwilliam Museum at Cambridge the marble statuette, which is illustrated in Fig. 115. This was found at Avaritsa, the ancient Melitaea. The figure is .11 m. high, and of coarse-grained marble. The arms are folded across the breast, and the figure seems to be nude, and



FIG. 115. Marble statuette from Avaritsa (scale about 2:3).

without doubt female. In the neck is a small hole for the attachment of a head, whether of stone or of some other material is not obvious. The lower part of the legs and the feet are rendered in a very summary manner. But most noticeable of all is the steatopyggy, which is more developed in this than in any other figure yet known. From its provenance, and from its character there is little doubt that this figure belongs to the Thessalian group, for nothing could be more unlike the Cycladic figurines.

## CHAPTER VIII

### THE SPERCHEUS VALLEY, LIANOKLADHI

THE mound (Fig. 116) known as Paleomilos (p. 11, no. 108) lies half an hour west of Lianokladhi village close to the left bank of the Spercheus, and opposite the site of Hypate. We tested the mound, which is about two hundred metres long and a hundred and forty wide at its greatest width, by sinking a line of shafts down to virgin soil. These shafts showed three



FIG. 116. Lianokladhi from the south-west, the mound shows dark in the middle distance.

strata, sharply divided from one another by a complete and sudden change in the pottery which is very plentiful. In addition, on the north-east slope of the mound we cleared a small area in the third or uppermost stratum, where we found the remains of a three-roomed house. We excavated here in June 1909<sup>1</sup>. The finds are in the National Museum at Athens. The greatest depth of the deposit is 5'50 metres.

#### *Pottery.*

Stratum I. This rests on an undulating surface of river drift, and in consequence varies in thickness from 94 m. to 3'55 mm. It is marked by an abundance of fine, painted pottery with elaborate red on white designs,

<sup>1</sup> *Liverpool Annals*, 1909, pp. 149 ff.

A<sub>3β</sub>, A<sub>3δ</sub>. Two subdivisions can be made in this stratum: in the lower or earlier part painted pottery is very common and plain ware rare; but in the upper or later part plain ware is commoner, and the painted ware is rarer, and coarser. That is to say that in the last part of the stratum there is a distinct degeneration. The pottery falls into the following classes:

A<sub>1</sub>. Monochrome red ware. The bulk of the plain ware of I belongs to this class, but, though polished, it is paler in colour and coarser in fabric than the Thessalian. Often the biscuit is of a purple shade. This variety is not often polished. Two shapes can be recognised, (a) large-bodied bowls with narrow necks, and (b) open bowls. There are also several fragments of horizontal loop handles, Fig. 121.

Further, under this class we may include many pieces of large, coarse vases in dull red, grey, or grey-black clay, some polished, and some not. None of these call for any remark, except two small handleless cups in polished black clay.

A<sub>3α</sub>. White on red ware, two sherds were found.

A<sub>3β</sub>. Red on white ware. Of the first or South-East Thessalian category not more than a dozen sherds were found. They all seem to belong to the Zerella style, and to be pieces of the typical shape, Fig. 117.g-j.

The bulk of the ware of this class, however, belongs to the third category, of which it is to be regarded as a variety that seems to stand midway between the second, or West Thessalian, and the third category. Some pieces have inside the lip decoration in the style of A<sub>3δ</sub>, and thus seem to show that this variety of A<sub>3β</sub> is also local. The principal shapes are: (a) bowls with narrow necks and rims, only one certain example (Fig. 119.b), (b) bell-shaped mugs with ribbon handles, several pieces, (c) open bowls, (d) plates on high feet (Fig. 120) like those from Tsangli and Tsani, decorated inside and out, (e) large-bodied bowls with low, narrow rims, which differ from shape (a) in that the body is wider and rounder, and the fabric coarser. It is to be noted that the first three of these shapes occur also in A<sub>3δ</sub>; but the last two are peculiar to A<sub>3β</sub>. The vases of the last shape (e) also are very thick and were mostly found towards the top of the stratum.

Reference to the illustrations (Figs. 117, 118, 120) shows clearly that the patterns of this variety of A<sub>3β</sub> differ very much from those of the others. They are usually formed by broad belts of parallel lines in zigzags, and the spaces between them are often filled with a chessboard pattern. Large diamonds either filled with a chessboard pattern or else composed of simple lines also occur, as well as a pattern of simple crossed lines. One of the plates is decorated with the chessboard pattern only, and another shows a plain design of diamonds, the bounding lines of which are crossed with irregular wavy lines. These patterns generally speaking suggest both those typical of the Chaeronca category of A<sub>3β</sub>, and the later style of the second, or West Thessalian, category.

A<sub>3δ</sub>. Red on white ware, this is the typical ware of stratum I. The biscuit is usually pink, and full of white granulations, and in some specimens is dull purple. The peculiar technique of this ware has been fully described above.<sup>1</sup> The white slip is rather friable, and liable to flake off altogether.

<sup>1</sup> p. 15.

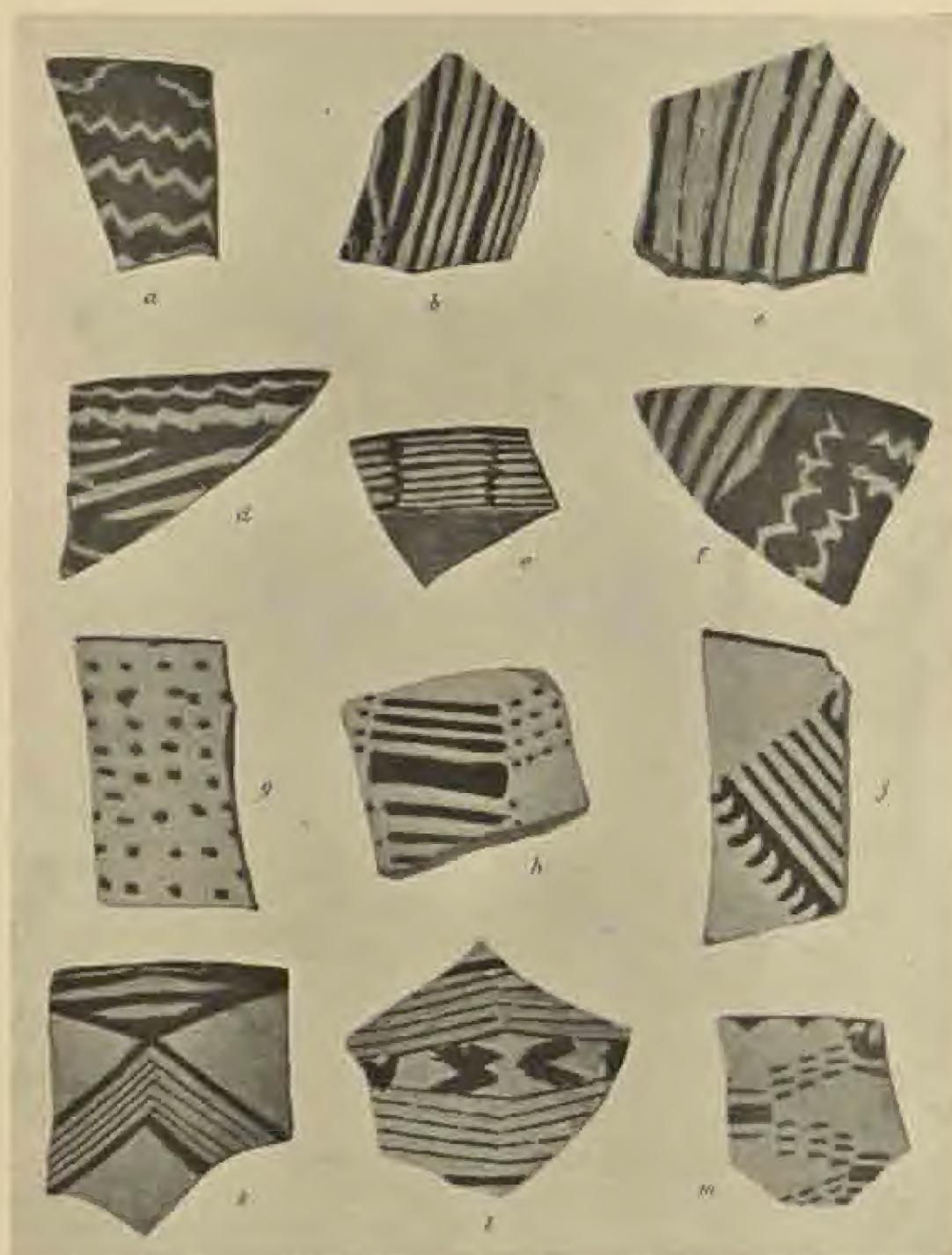


FIG. 117. Lianokladhi I: red on white ware, a-f A3A, g-l A3B first category,  
j-m A3B third category (scale  $\pm 3\frac{1}{2}$ ).

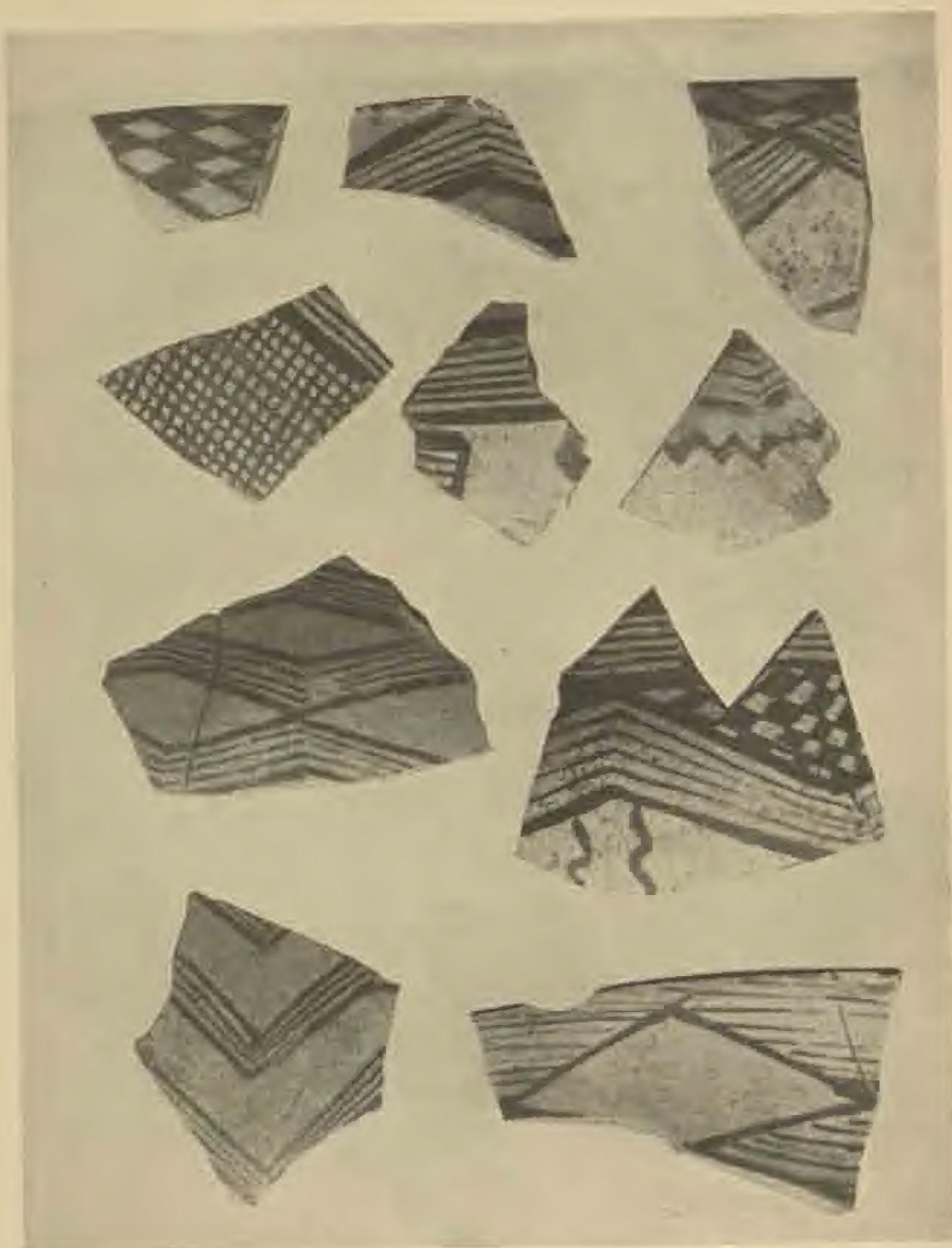


FIG. 118. Lianokladhi T<sub>3</sub> red-on-white (A39) ware (scale 1:2).

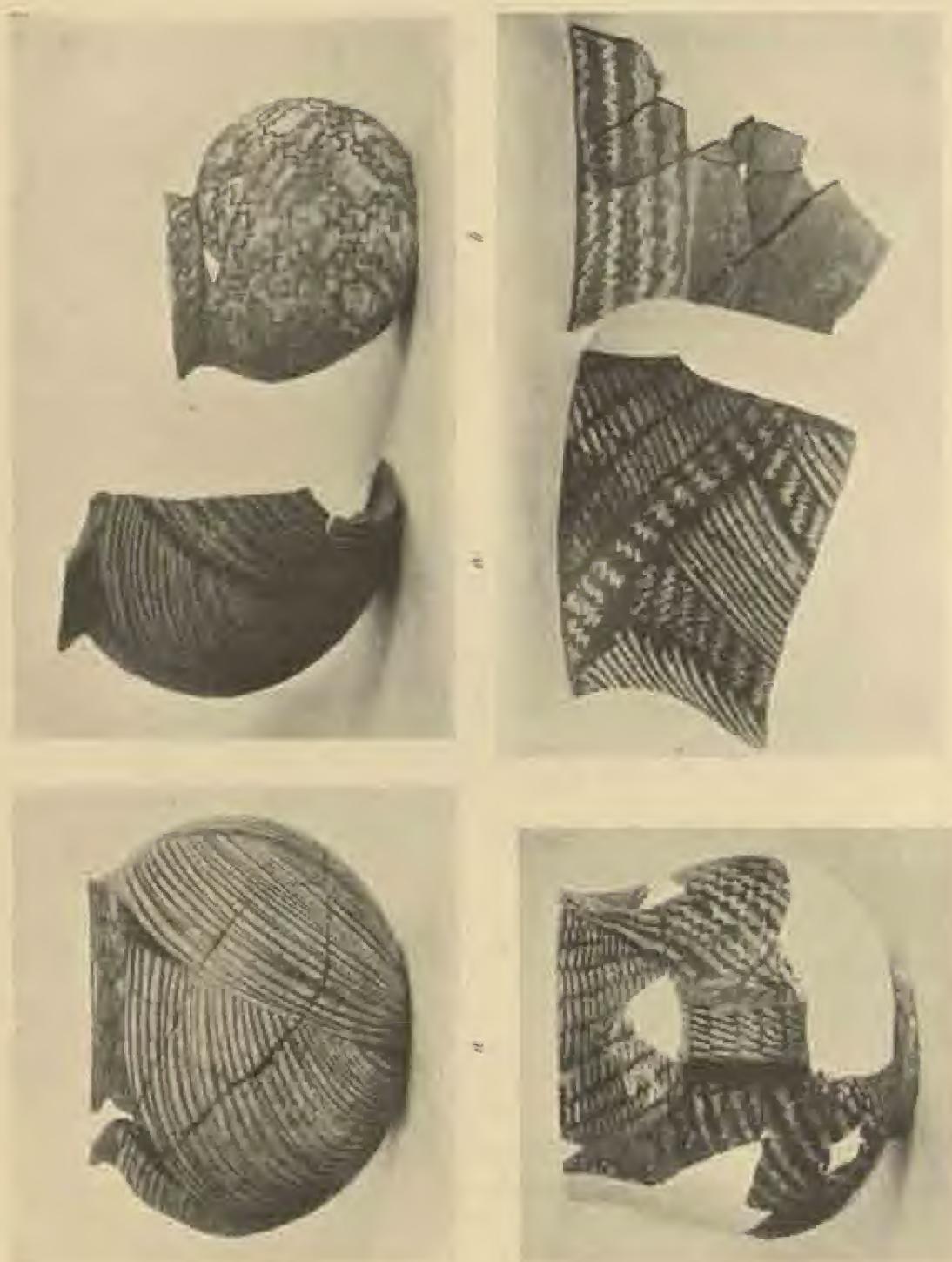


FIG. 115. Lianokladhi 1: red on white (A73) ware; scale 1:1.

The vases are thin, few sherds being more than 2005 m. thick, well polished, and as a rule painted on the outside only. The principal shapes are:

(a) Bowls with a narrow neck and a low rim: a rare shape. We found only one example, Fig. 119 a, which in contrast to most of the other vases of this class has a flat and not a raised base. The pattern round the rim is common, but usually confined to rims and handles.

(b) Bell-shaped mugs (Fig. 119 c, d), a common type which occurs also in Thessaly in A1, Fig. 96 f; Δ-Σ, p. 164, Fig. 77, in Α5β at Tsani, and in Γ1β. This kind of vase probably had only one handle, but there is no certainty as to this. In contrast to the Thessalian examples, the Lianokladhi vases always seem to have a low base. A large number of fragments of this type were found, and the two best specimens are shown in Fig. 119 c, d, but unfortunately one of these is so broken that it is not possible to restore it. On both the arrangement of the patterns is practically identical. On the inside of the lip the decoration always extends downwards for a short distance. Other fragments of these vases are seen in Fig. 117 a-f.

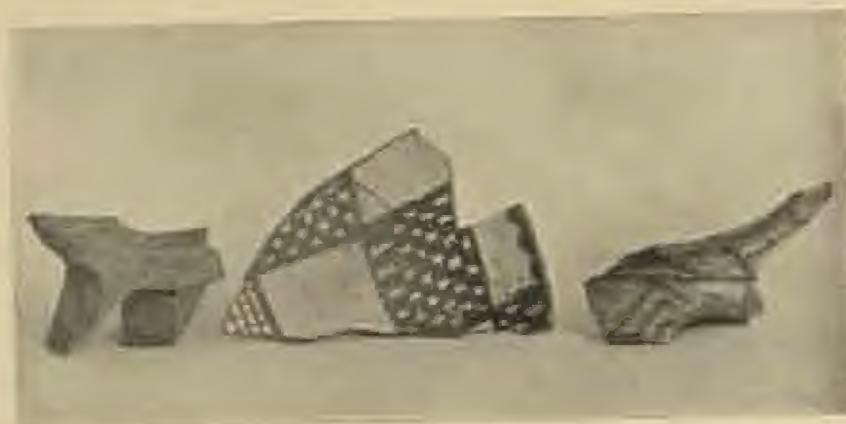


FIG. 119. Lianokladhi 11 plates of Α5β ware (scale 1:3).

(c) Open bowls. The exact shape cannot be determined, but they must have diminished directly from the rim downwards, since the inside is decorated almost to the bottom. In a sense this is a variant of (a) with the sides splayed out. They seem to have had a low base, and are common.

(d) Beaked jugs, the exact shape of these also is unknown, although many pieces of their necks were found. The beak is slight, and amounts to little more than a rim higher on one side than the other.

In addition we found two types of handles, which cannot with any certainty be classed with any of those described above. These are thickish loop handles (Fig. 121): one type, which sometimes has a serrated edge, was probably placed along or across the lips of bowls or cups, and the other is a vertical type from the sides of mugs. The first of these types occurs also in the unpainted ware A1. Finally, we may note a portion of an oblong box lid with the typical zigzag pattern. Some sherds with holes bored through them were also found.

This class of pottery has three typical patterns, one a zigzag, another composed of belts of sweeping curved lines, and the third resembles a rail fence. In appearance most of this ware seems to have a white pattern on a red ground, the great prominence of the red paint being a natural result of the curious technique.

B3a. Two sherds were found.

B37. One sherd was found.

B38. Two small pieces were found.

Other peculiar sherds include two with thin red and white linear patterns painted directly on the dull red clay, and a similar fragment with the pattern in red and black. These, which seem to be pieces of large, flat-bottomed bowls with vertical sides, do not fit into any known class of pottery, and resemble to some extent two sherds from Tsani.

The finding of Thessalian ware (A3β) here is important as showing that it was contemporary with the local Lianokladhi red on white ware (A3δ).



FIG. 131. Lianokladhi 1; fragments of handles (scale 1:3).

a fact that receives confirmation from the finding of a few sherds of A3δ mixed with A3β ware at Tsangli. Also the presence of the few fragments of B wares of the Second (Neolithic) Period shows that the first stratum here did not come to an end before the beginning of the second great group of neolithic wares in Thessaly.

Stratum II. The division between this stratum and the first is quite abrupt, and marked by a complete change in the pottery which belongs to the class known as "Urfirnis," which may be rendered "Black Lustre Ware." A very similar ware was found in the second stratum at Orchomenos where Furtwaengler first gave it the name Urfirnis, and a kindred ware occurs in the lowest strata at Tiryns. All the vases are hand-made and polished. The whole surface was covered with a wash of slightly lustrous paint that varies in colour from brown to deep black. A great variety in quality is noticeable; in inferior examples the paint is little more

than a number of dark smears on the body of the vase, and in better specimens the paint has a uniform colour throughout. The biscuit is ashen-grey, firing to buff towards the exterior, and thin sherds are buff right through. All the pottery from this stratum is unfortunately much broken, and consequently it is difficult to reconstruct the shapes with any degree of certainty, but the following list probably includes the most important.

Urfirnis ware. There are three main shapes:

(a) Shallow bowls with incurved rims, Fig. 86 *c, d*. It may be possible to subdivide these into a high (Fig. 122 *g, h, j*) and a low type (Fig. 122 *d, e, f*), but the evidence is incomplete to show how the bowls to which these rims belonged should be restored. Only one example with a horizontal handle was found (Fig. 123 *g*), and the majority have slight projections where the rim starts to curve inwards. It is noticeable that nearly all these examples are brown, and that only one has a matt red-brown surface.

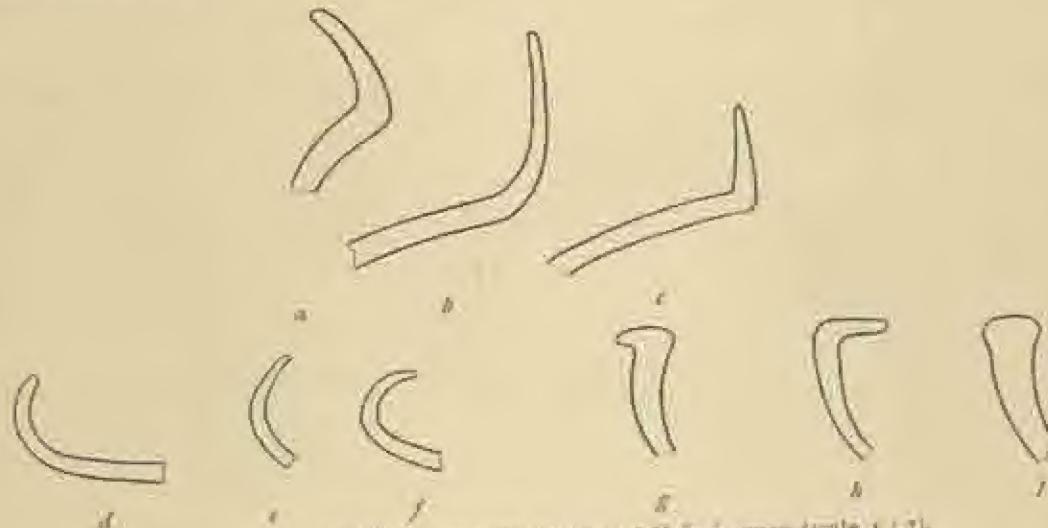


FIG. 122. Lianokladhi II; sections of rims of Urfirnis ware (scale 1:2).

(b) Round-bodied bowls with narrow necks and outcurving rims. This shape is rare, and all the examples are covered with good black paint. They seem to have had small, vertical ribbon handles, Figs. 122 *a, b, c*, 123 *a*.

(c) Askoi. This shape is largely conjectural, and rests on the following evidence. The large fragments shown in Fig. 124 by themselves suggest this shape, and there is a large number of long ribbon handles with a very slight curve, Fig. 123 *b-f*. Some of these join directly on to the rim, and most, if not all, seem especially suitable for an askoid type of vase. Further, this is a shape common in the Urfirnis ware at Tiryns. If the ribbon handles are really from askoi, their numbers make it evident that this was a common shape.

No other definite shapes can be recognised.

The bottoms of the vases are merely flattened, and there is no sign of a raised base in this fabric. Although the evidence of the flat, shallow bowls suggests that different shapes go with a different shade of the paint,

this is not borne out by other evidence. Brown and black seem to have been used indiscriminately. The only attempt at decoration is an occasional raised central rib on some of the askoi handles.

Dull red ware, unpolished: a few sherds were found: amongst them is a small piece of a raised base.

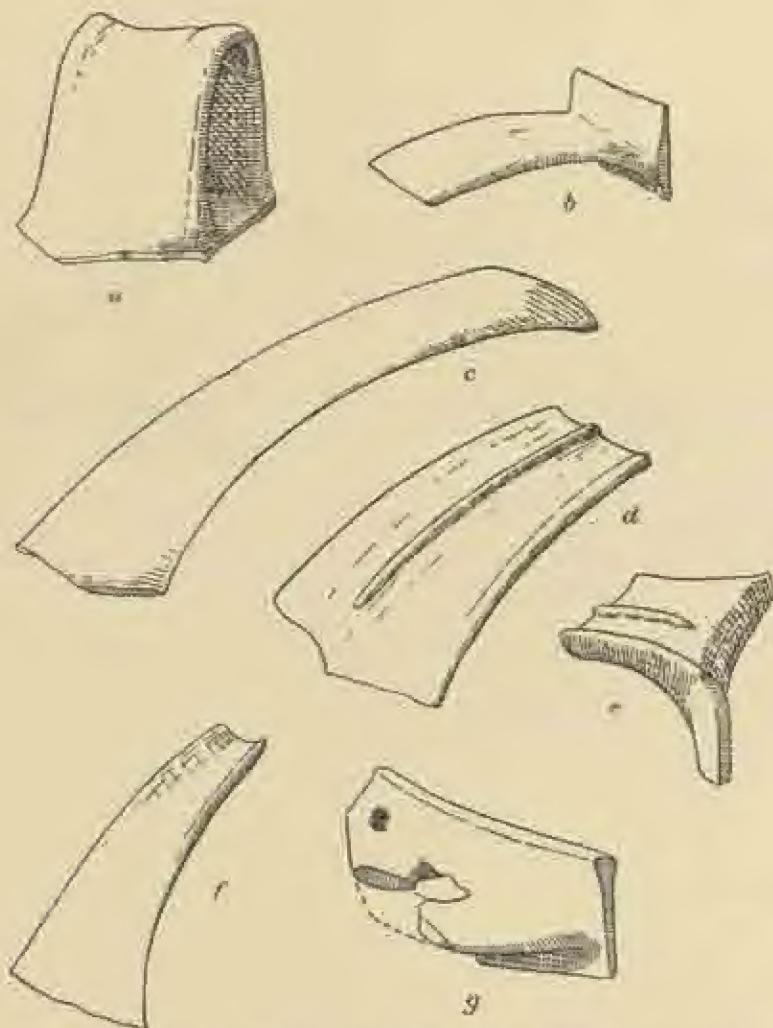


FIG. 123. Lianokladhi II; handles of Urniris ware (scale 1:2).

Black ware, coarse, but polished; very little was found.

The few sherds of these two classes found in II are probably to be regarded as leakages from III.

Painted ware, Mattmalerei (?). One sherd with a linear pattern in pale brown on a smooth creamy surface was found. This resembles the Mattmalerei ware from Aegina and Argos, and is clearly imported; but it is small, and not in good condition. A somewhat similar sherd from Orchomenos is in the National Museum at Athens.

Pithoi. Several pieces of large, coarse store jars were found. All are unpolished. One piece is decorated with a raised boss, and another has a rope pattern in relief.

Thus it will be seen that as far as the pottery is concerned there is no sign of any connection between II and the strata that precede and succeed it. The shapes, technique, and decoration of the vases are entirely different.



FIG. 124. Lianokladhi II: Urinus ware (scale 1:3).

Stratum III. This again is separated from II by another sudden and complete change in the pottery. Most of the vases that belong to it were found in the three-roomed house which is described below. The following classes may be distinguished.

**Δ18.** Hand-made ware with geometric patterns in thin, matt black on a reddish biscuit (Figs. 125, 126).<sup>1</sup> The fabric is thick, and badly made, and the patterns are painted directly on the clay. The surface is as a rule unpolished, but there are some pieces which are polished. The characteristics of this class are, the large number of big vases, including even pithoi (Fig. 128), that are painted, the absence of bases, the bottoms being only flattened, and the irregularity of the patterns. In the latter the following points should be noted, the frequent introduction of rude spirals on either side of the handles, while the rest of the pattern is purely linear, and the presence of a crossed circle on the bottom. The decoration is usually in horizontal zones, but unfilled panels also occur. It is possible to determine five main shapes:

(a) Short, round-bodied pithoi with tapering necks, and small vertical ribbon handles on the body. Below the handles the vase narrows in rapidly to a small flattened bottom. In the complete example shown in Fig. 125 the remarkable points of the pattern<sup>2</sup> are its division into panels, and the placing of spirals at the top of the vertical bands. Several fragments of vases of this shape were found; all have a crossed circle on the bottom.

<sup>1</sup> The photographs have been retouched, as the patterns are indistinct.

<sup>2</sup> Cf. restored pattern in Fig. 131.



FIG. 125. Lianokladhi III; pithos of  $\Delta\beta$ -ware, cf. Fig. 131 a (scale about 1:2).





FIG. 127. Lianokladhi III: AY ware (scale 1:3).



FIG. 128. Lianokladhi III: AY ware (scale 1:4).



FIG. 129. Lianokladhi III: rhombidrome ware (scale 1:3).



FIG. 130. Lianokladhi III: Minyan ware (scale 1:3).

(b) Vases of a skyphos type, specimens are shown in Fig. 126 *c, d, g, h*, and a restored pattern in Fig. 132. The decoration is usually confined to the upper part of the body, and is in horizontal zones. All the examples of this shape have spirals by the handles as seen in the illustrations, and in one case spirals are introduced into the interspaces between the triangles in the main zone. Nearly all the examples of this shape, which is common, have a crossed circle on the bottom.

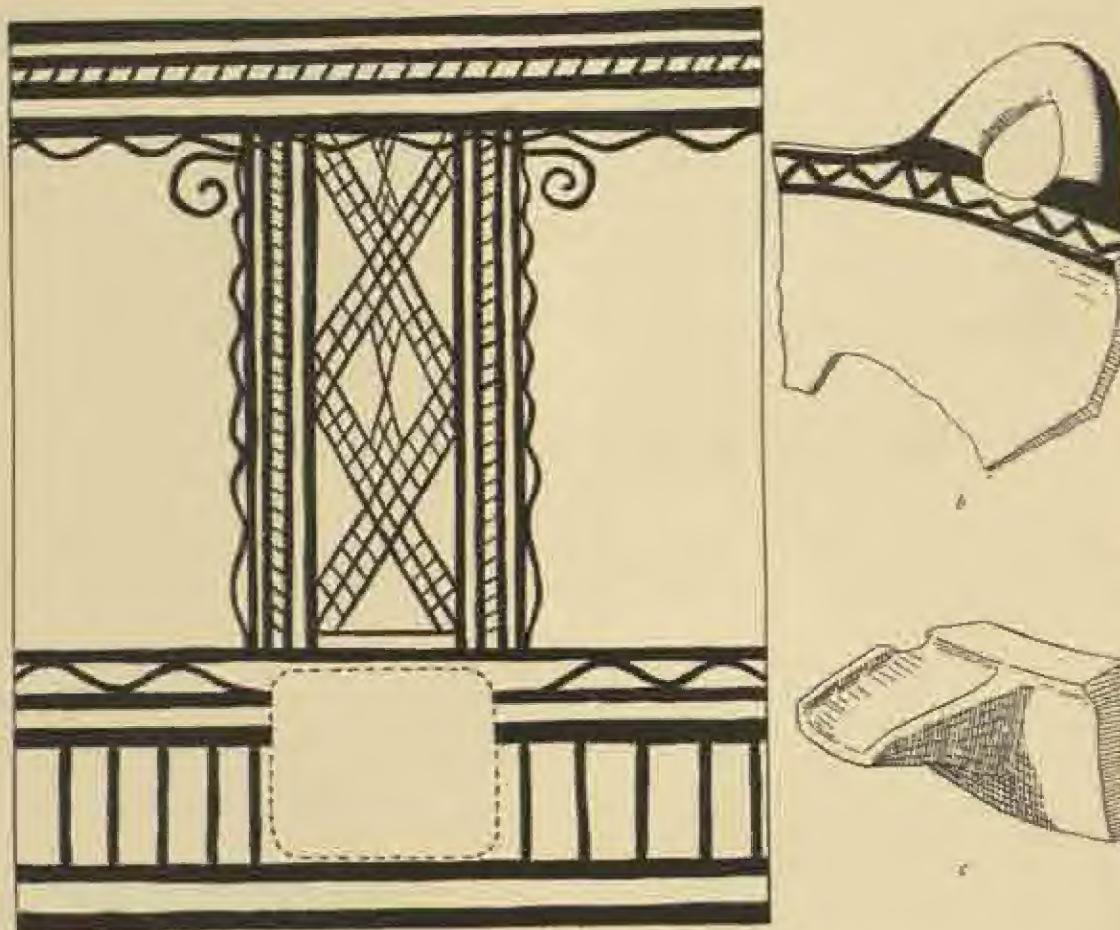


FIG. 131. Lianokladhi III: *a* pattern on *skyphos* (cf. Fig. 125); *b* fragment of bowl; *c* false spoon (scale 1:2).

(c) Shallow, open bowls with loop handles on the rim, Fig. 131 *b*. The decoration, which is simple and linear, is confined to the rim, but one fragment has part of a curvilinear design on the outside.

(d) Amphorae of these only fragments were found. The better made pieces (Fig. 126 *a, b*) show no sign of handles, but one coarse piece has a broken vertical ribbon handle on the shoulder.

(e) Handleless, round-bodied jars with a tall, narrow neck. We found only one specimen (Fig. 133) which is noticeable for the great inferiority of its patterns, its rough shape, and the presence of two small lugs on

each side. There is a crossed circle on the bottom. Notable is a fragment of a pithos painted in this style, Fig. 128.

This ware seems to be peculiar to Lianokladhi, for outside the Spercheus valley only four sherds have been found, two at Tsangli, one at Rini, and one at Orchomenos, now in the Chaeronea Museum.

In addition to the style described there is one sherd of the same fabric with a white slip.

$\Delta 1\gamma$  and  $\Gamma 3\beta$ ; of these two classes the second is the unpainted variety of the first. The biscuit is brick red, and polished. The painted examples are decorated in thin matt black like  $\Delta 1\beta$ . The patterns are simple and linear. There are two shapes:

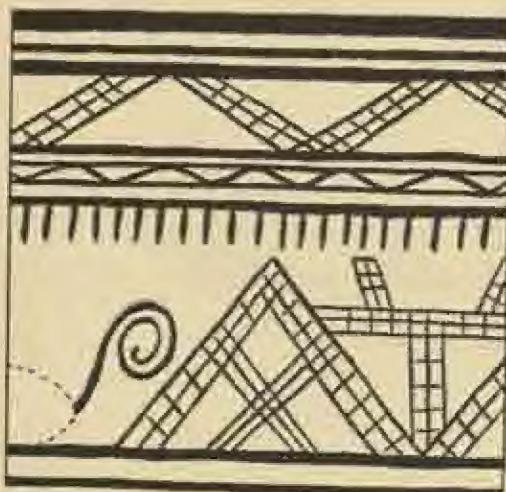


FIG. 132. Lianokladhi III; pattern on vase of  $\Delta 1\beta$  ware, cf. Fig. 126*c* (scale 1 : 2).



FIG. 133. Lianokladhi III; vase of  $\Delta 1\beta$  ware (scale 1 : 3).

(a) Shallow bowls with a flattened bottom and raking handles (Figs. 127*b*, 134 *a-c*). Unpainted specimens of this shape are common in Thessaly at Sesklo ( $\Delta-\Sigma$ , pp. 271 ff., Figs. 189, 190, 192-195), Tsangli, Tsani, and Zerelia. It is in all probability an importation from the north, for similar handles occur in Macedonia and at Troy<sup>1</sup>. The painted examples are probably a local imitation. The handle in Fig. 134*f* is probably from the same type of bowl.

<sup>1</sup> See H. Schmidt, *Zell. f. Ethnologie*, 1905, p. 98, Figs. 6-12.

(b) Tallish narrow-necked jugs with long vertical loop handles, Fig. 127 *a*, one example only.

Minyan ware. This was common. It is all wheel-made, of fine grey clay, and the better specimens are polished. The shapes are:

(a) Wide, deep goblets with a high, hollow foot ornamented with raised horizontal rings. This is the typical and commonest shape, Fig. 135.

(b) Shallow, wide bowls with a low spreading foot, Fig. 130 *a, c*; not many pieces were found.

(c) Shallow, wide bowls with a flattened bottom. Only one was found in the house, Fig. 130 *b*.

This ware is probably all imported from Orchomenos and the south.

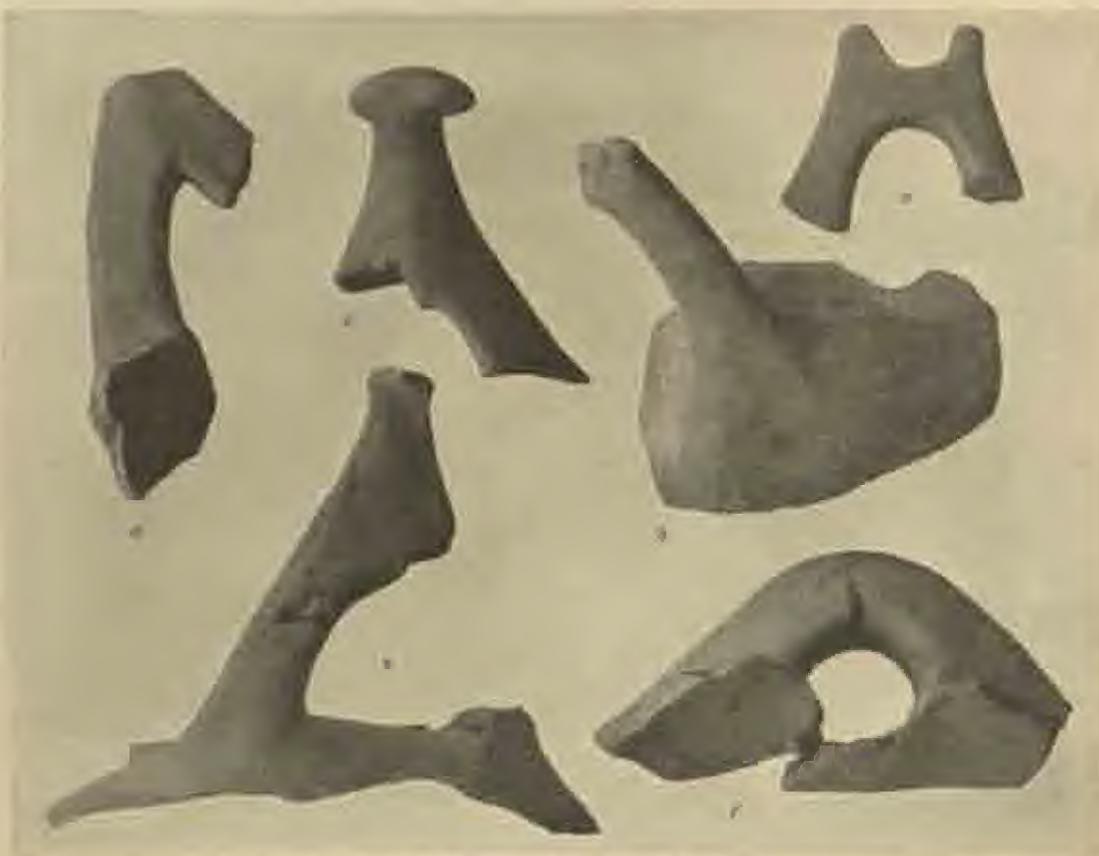


FIG. 134. Limokladhi III; Fig. 3d ware (scale 1:3).

Coarse monochrome ware; this is a rude hand-made fabric, sometimes polished and sometimes not. The biscuit varies in colour from dull red to black according to the firing. The vases seem to have been rough vessels for cooking, and other household purposes. Only two shapes can be distinguished with any certainty owing to the irregularity of the vases:

(a) Two-handled cups of polished ware; the handles, which are missing in the most complete example (Fig. 129 *a*), seem to have stood some distance above the rim, and to have been of the ribbon type.

(b) Tall, round-bodied pithoi with a small solid base to set in the ground. A sketch reconstruction of the shape is seen in the section in Fig. 137. We found six of these in the central room of the house, five of them being still *in situ*.

To these we can add the following odd pieces, the handle and neck of an amphora (Fig. 129 *b*), the handle of a bowl in the form of a false spout (Fig. 131 *b*), and the bottom of a large jar with a mat impression on the under side (Fig. 136). The latter is most interesting, since it shows how the jar was made. A round slab of clay was laid on a large wicker mat,



FIG. 135. Lianokladhi III, goblet of Mayan ware (scale 1 : 3).

as can be seen from the photograph. Then the lower part of the wall of the jar was fastened on to the edge of the bottom, and the potter proceeded to build it up by turning the mat round for convenience in working so large a vase<sup>1</sup>.

#### Architecture.

The first two strata contained no remains of buildings excepting a certain quantity of stones presumably from fallen walls, but in the third and uppermost stratum a large house was discovered in a state of fair preservation. A plan of this is given in Fig. 137, and a view looking into the central room in

<sup>1</sup> For other examples of mat impressions in Greece and elsewhere, see *Excavations at Phylakopi*, pp. 94 ff., Pl. VI.

Fig. 138. It is clear at once from the plan alone that this building is not entirely of one date, but is a combination of two separate houses, or else a single house, to which an extra room, or rooms, have been added. This is also borne out by the fact that two different methods of construction have been employed. The eastern portion, hatched on the plan, is built of small stones, collected from the bed of the Spercheus which flows close to the site, and set in mud or clay. These walls, which have an average thickness of 50 m., stand to-day to the height of 70 m.; and probably the stone work was never continued higher, for judging from the debris found within the



FIG. 136. Lianokladhi III; mat impression (scale 1 : 2).

building, the roof and upper portion of the walls were built of wattle and daub. The western portion, which includes two small chambers, has a foundation composed of a single layer of somewhat larger stones, the whole of the upper structure being again of wattle and daub. We formerly suggested<sup>1</sup> that this western portion, and the large east room were originally two separate buildings, and that the central room was a later addition connecting the two. This we now believe to be erroneous, and it seems preferable to regard the central and eastern rooms as originally forming a unit, and the western portion as an addition, and probably once a separate

<sup>1</sup> *Liverpool Annals*, 1909, p. 152.

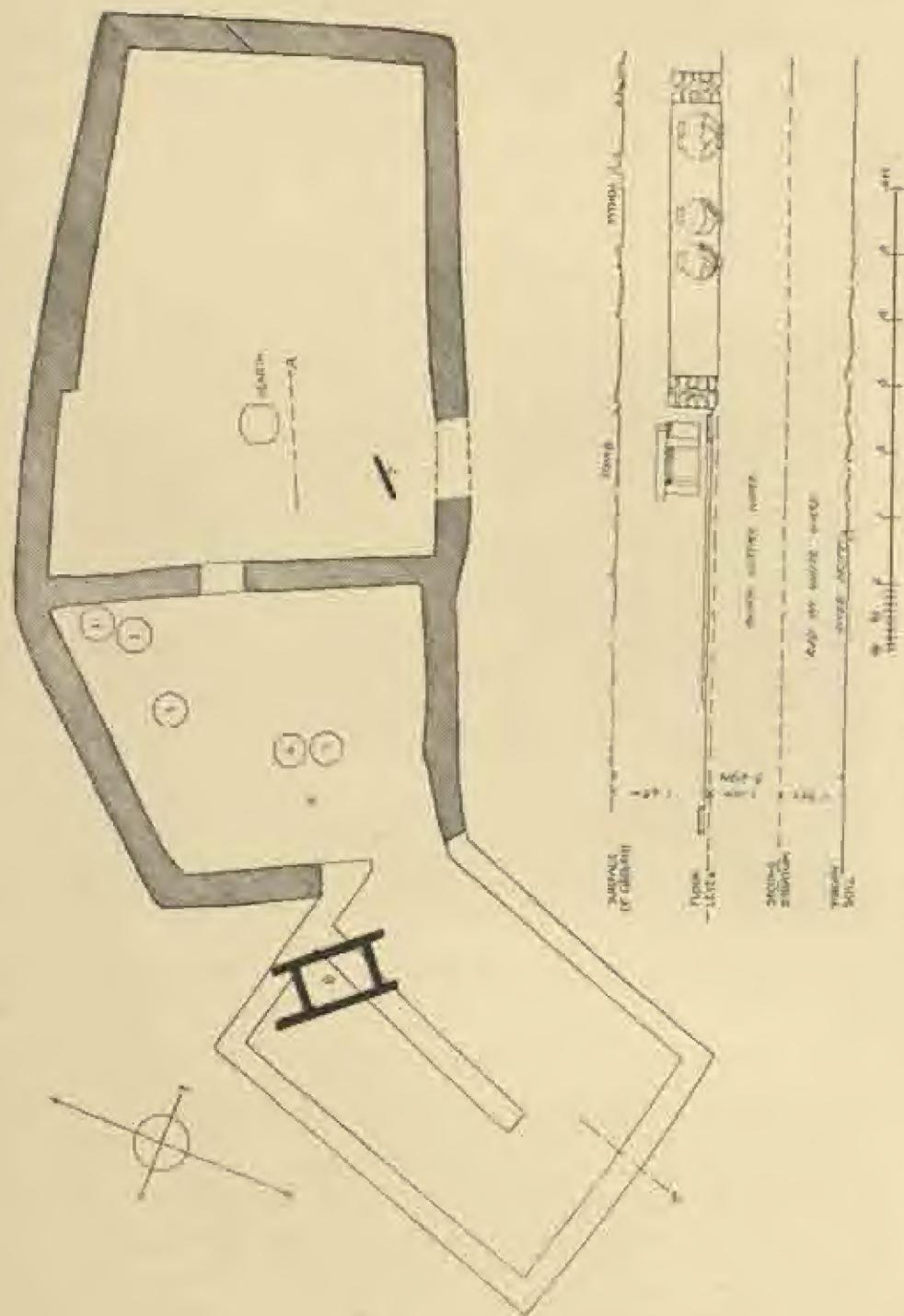


FIG. 117. Lianokladhi 111: plan and section of house

building. The central room is clearly the store room of the house, for in it were six large pithoi<sup>1</sup>, cracked by the fire, which had destroyed the building, but still *in situ* with one exception. A doorway, paved with cobble stones, led from the store room into the large east chamber or living room, which contains the hearth, a circular burnt patch in the floor of beaten earth. From this room there must have been a door leading outside, but unfortunately its exact position is unknown. There is no trace of an entrance in the northern wall, which thanks to the strengthening and thickening it underwent during the time the house was occupied, is still well preserved. The gap in the southern wall is due to a later tomb of which one slab still remains (7 in Plan). Thus by a process of elimination the east wall alone is left.



FIG. 138. Lianokladhi III; store room in house from the south, showing the pithoi *in situ*.

Unfortunately only the bottom course of this wall exists, and the exact position of the door is therefore only conjectural. Assuming, however, it to have been in this wall and probably in the centre, we get in the two eastern rooms a house like the megaras at Dhimini and Sesklo, and perhaps on their analogy we should add a portico. The fact that the eastern portion of this house differs in construction from the western, and also when taken by itself forms a recognised type, seems a conclusive proof that the whole building at some period underwent alterations. It seems on the whole not improbable that the eastern portion was at first intended to be a house of the ordinary "megaron" type, but that during construction the builder changed his mind, and determined to include in the house what is now the

<sup>1</sup> *Op. cit.*, p. 152, for "stone jars" read "store jars"; cf. *Arch. Anz.* 1910, p. 165, for "Steingefässer" read "Vorratsgefässer."

western portion, but what was then a separate building. The peculiar plan of the whole house probably arose from some such trivial cause. No sign of an outer door was found in the western part, but a paved doorway would not be discernible, for the wall foundations are only one stone in height. At the end of the excavation these ruins were carefully reburied.

#### *Tombs.*

In the third stratum two cist tombs were found at a higher level than the remains of the house, and directly above it. They were both built of slabs in the usual manner. Of one only one slab remained, see the Plan in Fig. 137, 7, 8, the other, which was perfect, contained only a skeleton in a contracted attitude on its left side. These tombs are later than the house, and must have been made at a time when the stone walls of the house were beneath the surface.

#### *Stone Axes and other Implements.*

*Celts.* In I and II none were found. In III two bored celts were found in the house. These, which are both broken, seem to be of Type E, but smaller than usual.

*Knives.* Stratum I, in this we found two small flint knives (Fig. 139 a, b), and two knives and some chips of obsidian.

Stratum II, in this were found three knives, and several chips of obsidian. There were also three straight and one curved knives, and two small saws of flint (Fig. 139 e-f).

Stratum III, in the house were found three curved knives (one being large), four saws, and one chip of flint (Fig. 139 g-m), but no obsidian at all.

*Millstones.* Two saddle querns, and two flat millstones come from II, and three saddle querns from the house in III.

*Mortar.* one was found in I.

#### *Miscellaneous Objects.*

*Bone.* Pins, etc., three sharpened bones from I, four and a good pin (Fig. 139 p) from II, and one sharpened bone from the house in III.

*Scrapers,* two from the house in III, Fig. 139 n, o.

*Terra-cotta.* Whorls, none from I and II. In III in the house four flat whorls, one of which is made of an Urniris sherd, five conical, and one double conoid.

*Spools,* one example bored longitudinally, and with splaying ends, and a thick, solid spool; both are from III.

There were also found in the house in III eleven large, coarse clay balls like that shown in Fig. 126 f, and pierced longitudinally. What purpose these remarkable objects can have served is doubtful.

As a result of an examination of the finds from the three strata at this mound we may conclude that the first stratum is neolithic, and that the third falls in the early bronze age, but for the second there is no evidence either way.

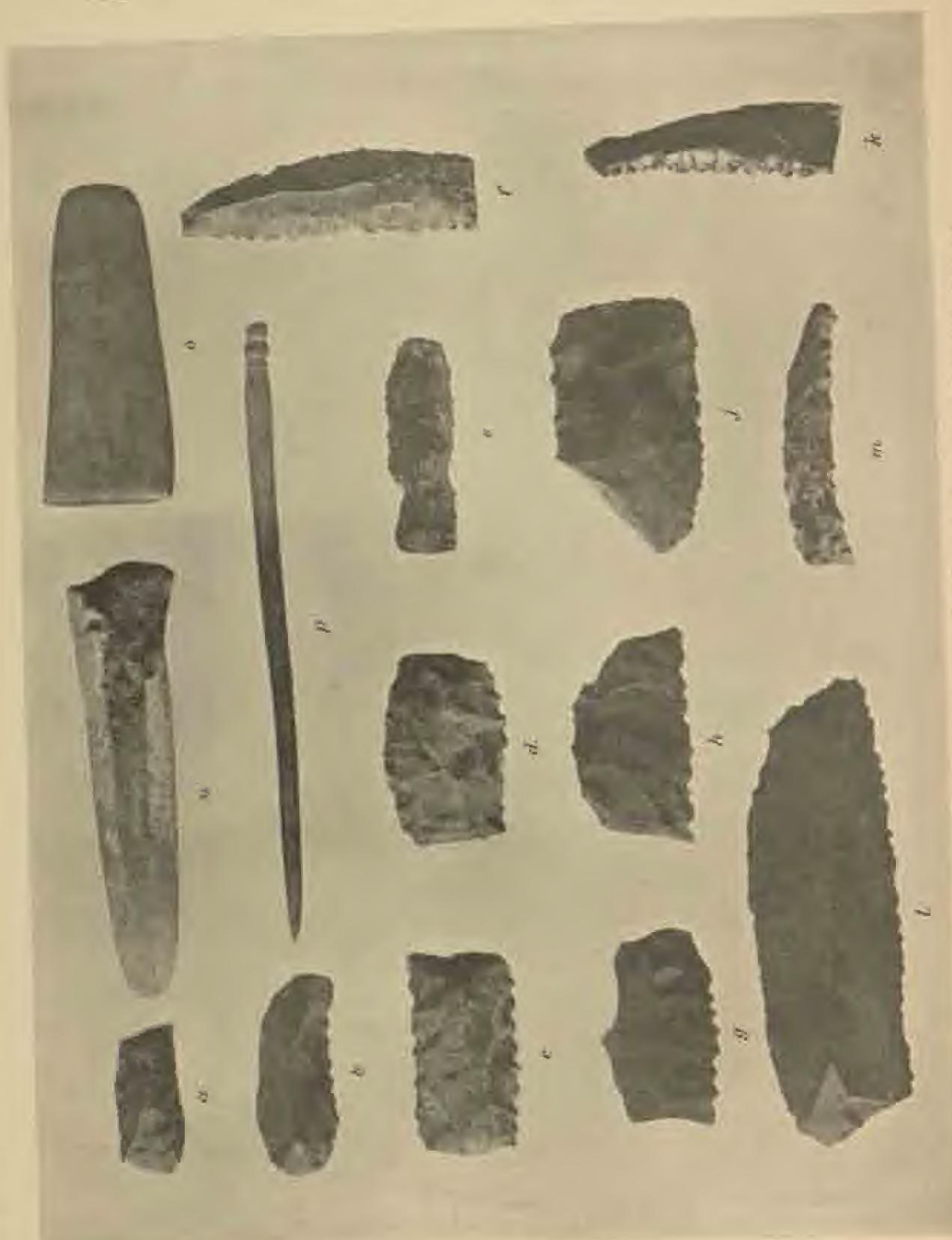


FIG. 192. Lianokladli: objects of flint and bone; a, b from L, c-f, j from H, g-i from W (scale 1:2).

## CHAPTER IX

### BOEOTIA AND PHOCIS

THE sites that have been excavated in these districts are: Ghulas, which was excavated by de Ridder<sup>1</sup> in 1893, Orchomenos, which apart from the trial trenches of Schliemann<sup>2</sup> (1880-1881) and de Ridder<sup>3</sup> (1893) was more systematically explored by the Bavarian expedition under Furtwaengler and Bulle<sup>4</sup> in 1903 and 1905, Chacronea, Manesi, Dhrakhmani (the ancient Elatea), and a mound in the Schiste, all of which have been excavated by Sotiriadhis<sup>5</sup> between 1902 and 1910. In addition Sotiriadhis and Noack by surface exploration have increased our knowledge of the prehistoric sites of these districts.

#### A. GHULAS.

The principal result of the excavations at this site (p. 12, no. 122) was the study of the fortifications, and the discovery of buildings including what is called a palace. These architectural remains, to judge from the pottery found, belong to the second and third Late Minoan periods; but it is of course possible that they may be somewhat earlier. They however have been fully published by de Ridder<sup>6</sup> and Noack<sup>7</sup>, and no further description is needed. In the excavation not more than thirty fragments of vases were found. These, according to the excavator, were mostly Mycenaean, presumably Late Minoan III, and with two or three exceptions wheel made. But it is to be noted that Minyan ware has been found here also.

#### B. ORCHOMENOS<sup>8</sup>.

Schliemann's trial trenches first showed that the remains of Orchomenos go far back into the prehistoric period (p. 12, no. 116). The remains of the Mycenaean palace afterwards discovered by Furtwaengler are among the latest of the prehistoric remains at this site. To the same or a somewhat earlier period belongs the well-known tholos tomb. Unfortunately only the first volume of the publication of the Bavarian excavations has been issued. This deals with the architectural remains, and till the second volume dealing with the pottery appears our knowledge of the site is very incomplete. But luckily some of the finds are accessible to students in the National Museum at Athens, and in the Chacronea Museum. In the following account we have summarised the results as far as they are known.

<sup>1</sup> *B. C. H.* 1894, pp. 271 ff.

1906, pp. 356 ff.; *Εφ. Αρχ.* 1908, pp. 63 ff.

<sup>2</sup> *f. H. S.* 1881, pp. 122 ff.

1889, pp. 123 ff.; 1910, pp. 159 ff.

<sup>3</sup> *B. C. H.* 1895, pp. 136 ff.

<sup>4</sup> *B. C. H.* 1894, pp. 271 ff.

<sup>4</sup> Bulle, *Orchomenos I* (*Abhand. d. k. Bayer. Akad. der Wiss.* 1 Kl. Bd. XXIV, ii. Abt. 1907).

<sup>5</sup> *Ath. Mitt.* 1894, pp. 405 ff.

<sup>5</sup> *Ath. Mitt.* 1903, pp. 302 ff.; 1905, pp. 120 ff.; *w. & t.*

<sup>6</sup> See the literature quoted above especially the official publication of the Bavarian excavations by Bulle.

## Pottery.

The excavators divide the deposit according to the finds, both ceramic and architectural, into four strata, which they number from the bottom upwards.

I. First (Round Building) Stratum. In this the characteristic pottery falls into two groups, both of which will be more closely described in dealing with the finds from Chaeronea<sup>1</sup>. One is a hand-made ware decorated with red on white patterns (A38, third category), and the other is a hand-made and polished black ware, very well made, but with no decoration except for groups of smooth, round knobs projecting from the surface like studs or rivet heads (A57). Both these wares are characteristic of the neolithic settlements at Chaeronea and Dhrakhmani, so this stratum may be considered neolithic.

II. Second (Bothros) Stratum. The typical pottery of this stratum is that christened by the excavators "Urfirnis" ware. The name is not altogether satisfactory, but it is probably now more convenient to retain it than to invent a substitute. As far as we have been able to examine this ware there is no essential difference between it and the corresponding ware from Lianokladhi II<sup>2</sup>. With this was also found a small quantity of ware said by the excavators<sup>3</sup> to be distantly related to Cretan Kamares ware<sup>4</sup> (Middle Minoan). The Orchomenos ware has a semi-lustrous grey-black ground, on which are painted simple linear patterns in thin, matt white. It has no resemblance to any Middle Minoan Cretan ware<sup>5</sup>, and of all the Cretan fabrics recalls the light on dark pottery of the third Early Minoan<sup>6</sup> period. But as it differs even from this, the inference is that the so-called Kamares sherds from Orchomenos are not Cretan at all.

III. Minyan Stratum. This stratum the excavators call Early Mycenean, a somewhat misleading description, for the pottery found is of an unpainted wheel-made grey fabric quite unlike ordinary Mycenean wares. We have consequently returned to Schliemann's old nomenclature of Minyan, which was also at first employed by the Bavarian expedition, but afterwards rejected. There is no evidence that Minyans made this pottery, but its home is undoubtedly Orchomenos, although it is found in small quantities throughout a large area. It does not differ as far as our knowledge goes from that found in Lianokladhi III<sup>7</sup>. In the same stratum was also found a certain quantity of pottery called by the excavators Mattmalerei, which is similar to the well-known wares from Aegina<sup>8</sup>, Argos<sup>9</sup>, and Mycenae<sup>10</sup>, and the most noticeable shape is a pithos very like those from Aegina and Argos<sup>11</sup>.

IV. Late Mycenean Stratum. In this pottery of the third Late Minoan period was very common, and as such calls for no remark here<sup>12</sup>.

<sup>1</sup> See below, Section F in this Chapter.

<sup>2</sup> See Chapter VIII.

<sup>3</sup> Bulle, *op. cit.*, p. 16.

<sup>4</sup> We have seen in a tray of Urfirnis sherds from Orchomenos, at Athens, two sherds of A38.

<sup>5</sup> See Mackenzie, *J. H. S.* 1906, pp. 243 ff., Pls. VII, VIII.

<sup>6</sup> Cf. Miss Hall, apud Boyd-Hawes, *Gournia*, p. 57, Figs. 41, 42; *B. S. A.* x, p. 179, Fig. 2.

<sup>7</sup> See Chapter VIII.

<sup>8</sup> *Eph.* 1895, pp. 235 ff., Pl. 10.

<sup>9</sup> *B. C. H.* 1906, pp. 19 ff.

<sup>10</sup> Schliemann, *Mycenae*, pp. 65, 146, 163, Figs. 26, 27, 28, 236, 237; Schuchhardt, *Schliemann's Excavations*, pp. 209 ff., Fig. 324.

<sup>11</sup> *B. C. H.* 1906, p. 21, Figs. 24, 25.

<sup>12</sup> There is also one sherd of A38 from Orchomenos in the Chaeronea Museum.

## Architecture.

Stratum I. As already stated the buildings of this were in the form of round huts which vary in diameter from 2·10 m. to nearly six metres. They have a foundation wall about one metre thick, and built of small stones, on which rested the upper structure of unbaked brick which gradually slopes inwards. As this upper structure is not preserved to a greater height than 1·95 m. the exact form of the roof is uncertain, though it seems to have been beehive shaped. The floors were of beaten earth or clay, and no doors were to be observed.

Stratum II. The houses of this are of the so-called oval type, that is to say they are not truly oval, but are roughly oblong with one curved and one rectangular end. The walls are from 1·50 m. to 1·60 m. thick, and seem to have been similar in construction to those of the round huts. There is a foundation wall of small stones on which rested the upper structure, which was probably of unbaked brick, though no remains are preserved. For the shape of the roof there is no evidence. The most remarkable feature of these houses are the so-called *Bathroi*, which were as a rule found inside them. These are small pits, 1·80–1·90 m. deep, and 1·60–1·80 m. in diameter at the top, though in some cases these measurements are exceeded. The sides are covered with a thickish coat of clay, the bottom is rounded, and the top as a rule level with the floor, though occasionally it projects above. Many of these were filled with nothing, but ashes, and fragments of charcoal. In others in the ashes were found small pieces of sheep or goat bones, fragments of vases in the Urniris style, and rarely implements of stone or bone. Sometimes there are two or three *bathroi* in the same house, and in one case at least the *bathros* seems to have been in the open. Their purpose and use are uncertain: their shape and depth make it unlikely that they were hearths, and their contents make it impossible that they were refuse pits. The excavators think that they were pits for the preservation of ashes which were connected with some religious purpose. It is possible that they were a kind of oven, which was filled with hot ashes brought from the hearth, and that then the food for cooking was wrapped up and placed in the midst of the ashes. This method of cooking was employed by the klephits, and is still used in the Southern Balkans.

Stratum III. The houses of this are again different in plan from those of the preceding strata. Unfortunately no complete house of this layer was discovered, so that the actual plan is unknown. But the houses were at least rectangular, and seem to have consisted of more than one room, and to have had courtyards. The walls have a foundation of small stones, on which rested an upper structure of unbaked brick, and on the inside are plastered with a thin coat of clay mixed with straw. The floors of the rooms are of beaten earth, and the courts are paved with slabs or cobble-stones. But as has already been said the lack of any complete house-plan makes it impossible to compare these remains with any at other sites. It is interesting to note that in the remains of this stratum carbonised wheat, beans, peas, etc., were common. This seems to indicate that its inhabitants were much given to agriculture.

Stratum IV. There are no certain architectural remains of any importance in this stratum, except a quantity of fragments of painted wall plaster like those from Thebes and the later palace at Tiryns.

*Tombs.*

The tombs found at Orchomenos belong to the Third (Minyan) Stratum, and fall into three groups according to their construction. There are (1) cist tombs built with slabs like those at Sesklo and elsewhere in Thessaly; (2) cist tombs built with unbaked brick, this is the most numerous class; and (3) burials without any enclosure; in some cases the bodies were covered with pithoi broken in half. In every case the bodies were buried in a contracted attitude, and with one exception lay on the left side. Only in the following cases was anything else beyond the skeletons found:—

- Tomb 10. Two small spiral bronze rings.
- Tomb 22. A two-handled cup of Minyan ware.
- Tomb 31. A bronze spiral ring.
- Tomb 34. A coarse hand-made pot.
- Tomb 35. A jug of Mattmalerei ware, and a Minyan cup.
- Tomb 39. A clay whorl.
- Tomb 43. A necklace of small glass beads.
- Tomb 47. A Mattmalerei bowl, and a two-handled jug of Minyan ware.

The scarcity of finds in these tombs shows that they correspond very well with the Thessalian cist tombs, in which finds are also scarce. They are important for two reasons: (1) the finding of bronze, which shows that the Third or Minyan Stratum falls in the bronze age, (2) the finding of Minyan and Mattmalerei ware side by side, which shows that they are contemporaneous.

Thus we see that the First Stratum is neolithic, and that the Third and Fourth belong to the bronze age, though we cannot tell till the full material is published whether stone implements were also found in the Third Stratum. As to the Second Stratum we cannot yet say whether it is neolithic or chalcolithic.

In addition to excavating at Orchomenos the Bavarian expedition also examined other sites<sup>1</sup> on the shores of Kopais in the same neighbourhood. These are:

*C. Poliyira.*

This is a small hilly tongue of land projecting into the Kopais basin to the north of Orchomenos (p. 12, no. 117). Trials here yielded, apart from remains of the classical period, also interesting prehistoric finds of which there are two strata. The lower stratum contained red on white painted and black polished knobbed pottery like Orchomenos I; the upper stratum contained a mixture of Mycenean (L. M. II, III (?)) and Mattmalerei and so is parallel to Orchomenos III and IV.

*D. Pirghos.*

This is a site similar to Poliyira and is exactly opposite to Orchomenos across the Kopais basin (p. 12, no. 118). Here there are remains of the classical period, but a trial excavation produced pottery like that from Orchomenos III and IV. A cist tomb was also found, built of slabs, and with the

<sup>1</sup> *Bullet.* *op. cit.* pp. 116 ff.

skeleton lying on its left side in the usual contracted attitude. At Pirghos the excavators also procured a marble statuette<sup>1</sup>. This has short stumpy legs and the arms are folded across the breast. It is markedly steatopygous. The excavators regard it as an importation from the Cyclades. But its shape and steatopygy mark it as totally different in type from Cycladic statuettes. It clearly belongs to the North Greek class of stone statuettes, and should be compared with the stone and terra-cotta figures from Chaeronea<sup>2</sup> and the marble figure from Avaritsa<sup>3</sup>. It is true that it resembles the statuettes from Athens and Sparta, but even these as shown by Tsundas are by no means Cycladic<sup>4</sup>.

#### E. MAGHILA NEAR PIRGHOS.

In the Kopais basin just below Pirghos is an isolated rocky hill known as Maghila (p. 12, no. 119). This the excavators believe to be the classical Delos, for there are on the hill remains of Hellenic walls. A trial excavation yielded plentiful remains of the neolithic age below these walls. A quantity of pottery both of the red-on-white painted ( $\Lambda_3\beta$ ) and black polished knobbed ware ( $\Lambda_5\gamma$ ), like that from Orchomenos I, was found, as well as obsidian knives and a small celt. The absence of any later prehistoric remains showed that between Orchomenos I and the classical period this site was uninhabited.

#### F. CHAERONEA.

Not far from the right bank of the Kephissos and about half an hour from the ruins of Chaeronea Sotiriadhis has excavated<sup>5</sup> a large mound (p. 11, no. 115) known as Maghila Balomenou (*Μαγούλα Μπαλωμένου*). The mound stands about 350 metres above the level of the surrounding fields, but the prehistoric deposit is at least six metres thick. In Roman times the mound had been inhabited and remains of mortar-built walls occur on top. Below the surface humus in the centre of the mound the excavator found what he believes to be the remains of a fence of reeds and branches of trees that surrounded an altar. The wattle work was daubed over with clay and within it were found two hearths and the site of an altar recognisable by a thick deposit of ashes. This fence or hut seems to have been several times burnt, for round about was a layer of burnt clay either in lumps showing traces of the wattle, or in a state of decomposition, and full of potsherds and neolithic tools. Below this were found at least four layers of earth full of potsherds, bones of animals and stone implements separated from each other by thin layers of ashes. The excavator believes that this shrine or altar was erected on a mound where some distinguished man had been buried, for at a depth of 2.70 metres from the surface he found two skeletons, both in a contracted attitude. One of the skeletons, that of a man, lay on its right side and showed no traces of burning, the other, that of a youth, lay on his left side resting on a thick layer of ashes. He concludes that the man is the distinguished person to whom the altar was afterwards erected, and that the youth was some slave or servant buried with

<sup>1</sup> Buile, *op. cit.*, p. 121, Fig. 33.

<sup>2</sup> See p. 201.

<sup>3</sup> See Chapter VII.

<sup>4</sup> See p. 225; 2-2, pp. 384 ff.

<sup>5</sup> 'Εργ. 'Αρχ. 1908, pp. 63 ff.; Ηρακλείδ. 1909, pp. 123 ff.

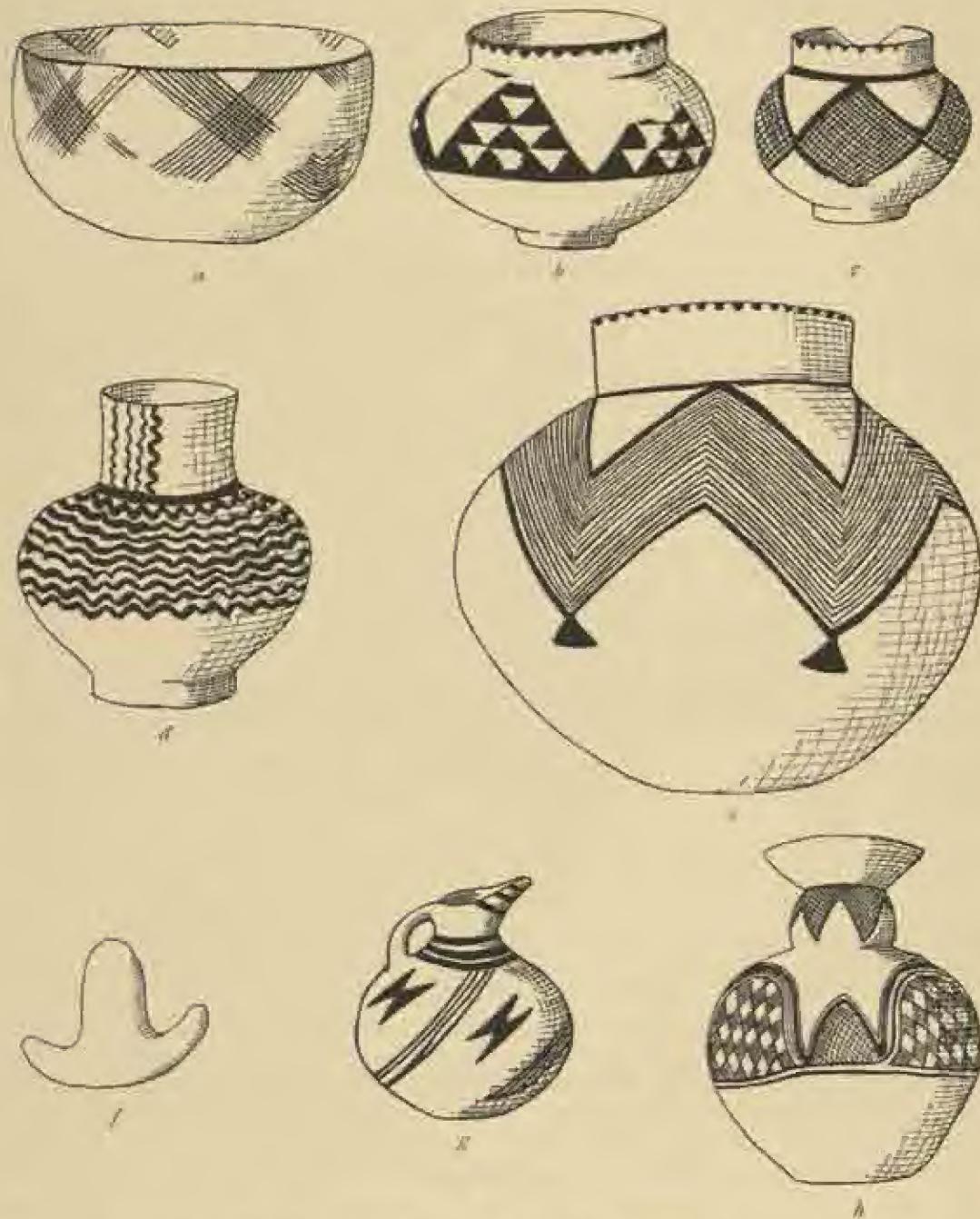


FIG. 148. Chaeronea; a-c red on white (A32) ware. Schiste; f anchor ornament (scale about 1:3). Dhrakhmani; g, h vases from tumulus burial (scale h about 1:12).

him, and that the ashes and rubbish found below them are the remains of a large funereal sacrifice in honour of the deceased. The excavator's theory seems to be open to two objections, (1) why in such a place should there be so many remains of household occupation such as potsherds, tools and weapons, apart from animal bones which might be considered the remains of sacrifices? (2) there was another burial of a man directly below the burnt layer at the top and in one of the thin layers of ashes. If one may judge by the analogy of Thessalian sites it seems more likely that this mound is built up of the remains of several successive settlements destroyed by fire<sup>1</sup>; that the layers of earth represent the accumulation of rubbish during the lifetime of the settlement and that the layers of ashes are the remains of the conflagration that destroyed it. Then the presence of burials in layers of ashes is easily explicable, the skeletons are those of inhabitants of these settlements who were buried on the spot and so naturally in the burnt debris of the last destroyed settlement. The mass of burnt clay and ashes in the centre of the mound on top would then be the remains of the last inhabitation of the site in prehistoric times which were never scattered over the mound as it was not re-inhabited till Roman times.

### Pottery.

Fragments of pottery were found throughout the mound in great quantities, and all kinds according to the excavator were found in all the strata. The various classes may be divided as follows:—

(1) Monochrome ware. This varies in colour from yellowish and reddish to black. The most characteristic variety is the black ware (A3γ) which is decorated with round, smooth knobs projecting from the surface. The knobs are arranged in groups, such as triangles, or are placed in straight lines. The only shape that is so far identified is a cup, Fig. 142 a. The monochrome vases of other colours cannot yet be grouped under any class, unless we could consider them a variety of A1, like the monochrome ware of Lianokladhi I. In them two shapes are recognised, (a) bowls<sup>2</sup> with rounded bottoms, and of various sizes, some being irregular, and not circular in shape, (b) large jars<sup>3</sup> with short rather narrow necks, the bodies of which vary from an upright oval to a circular form. Other shapes existed, but are not yet clear. Suspension holes occur in some fragments, and a primitive type of handle is to be noted. Under this class also come some small, roughly made vases, that are probably terra-cotta lamps<sup>4</sup>.

(2) Incised ware. Only two sherds were found, and these are the legs of three or four legged pots<sup>5</sup>. They are hand polished, and the incisions are filled with white. It is not yet possible to group these with any known class, but they are the same as two fragments of similar pots from Tsangli, and several similar pieces have been found at Dhrakhmani.

(3) Black ware with simple linear decoration in white, very few sherds were found, which are polished.

(4) Red on white painted ware, A3β, third category. The biscuit is pale buff in colour and covered with a white or yellowish-white slip, on which are

<sup>1</sup> This is also the view of Bülle, *Orchomenos I*, p. 122.

<sup>2</sup> E.g. 'Αρχ. 1908, p. 70, Fig. 3.

<sup>3</sup> 'Εργ. 'Αρχ. 1908, p. 67, Fig. 2.

<sup>4</sup> 'Εργ. 'Αρχ. 1908, p. 82, Fig. 10.

<sup>5</sup> 'Εργ. 'Αρχ. 1908, p. 75, Fig. 7, cf. below Fig. 142j.

painted geometric patterns in deep red. Occasionally when the biscuit is very light in colour the patterns are applied directly to it. The whole vase after baking was hand polished. The chief patterns are, belts of parallel lines crossing one another chequerwise, diamonds of crossed lines, or of a chessboard pattern (sometimes the two are combined), pyramids of triangles and, rarely, belts of wavy lines (Fig. 140). The shapes as far as they are known are simple:—(a) open bowls with a rounded bottom (Fig. 140 *a*), (b) round-bodied jars with a raised base, and a low neck (Fig. 140 *b, c, d*), (c) jars similar to (b), but with a rounded bottom (Fig. 140 *e*). This is the typical ware of Chaeronea, and great quantities of it have been found.

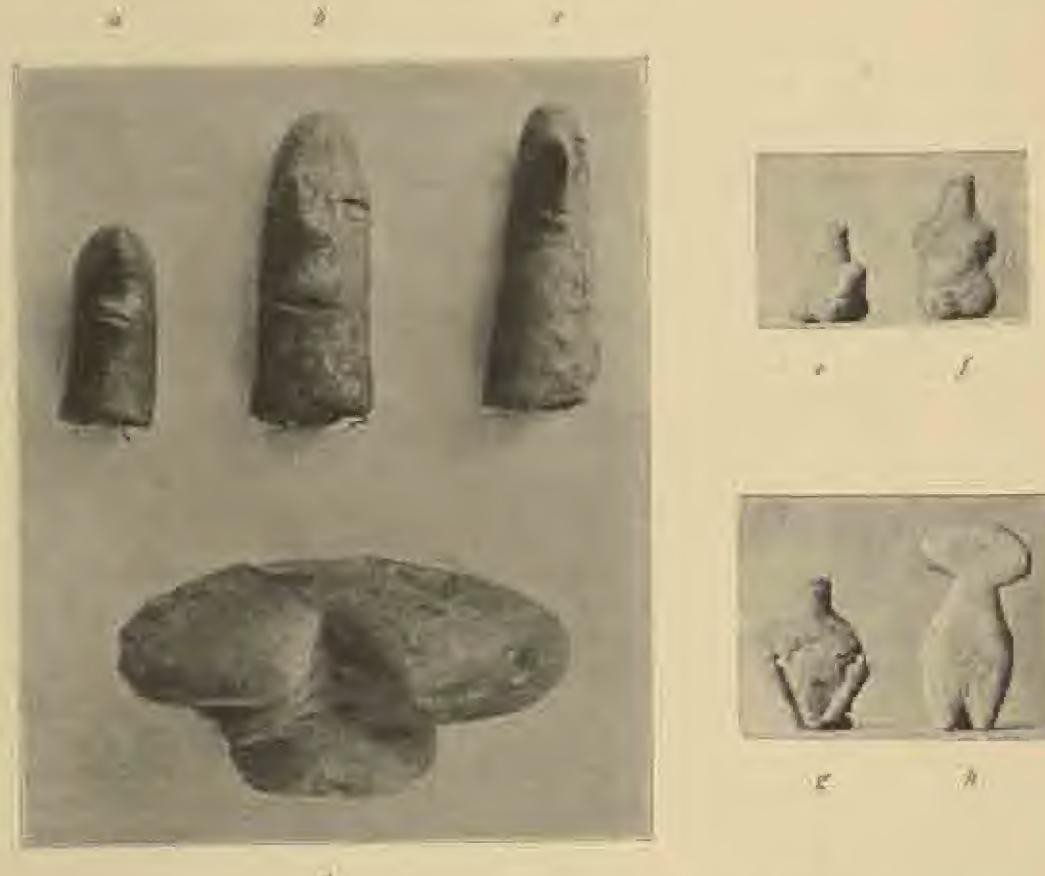


FIG. 141. Chaeronea; figurines of terra-cotta (a-f), and stone (g, h).

(5) Matt-painted ware. B3e, with patterns in dark brown on a buff or cream biscuit<sup>1</sup>. Not many sherds of this class were found here, but it is common at Drachmali. Sotiriadhis believed it to be the same as the Mattmalerei ware from Aegina, Orchomenos, and Eleusis. But this view is mistaken, for the ware is exactly like the sherds of B3e, which have been found in Thessaly at Tsani and Tsangli.

<sup>1</sup> E.g. 'Aph. 1908, Text Plate 32, 3, 5, 7, 8, 10-14, 18, 19, p. 83, Fig. 113, 5-7.

(6) Matt-painted ware, B3δ, with black patterns on a red biscuit. This also like B3ε is rare at Chæronea.

(7) Three-colour ware, B3γ, with red and brown-black patterns on a cream ground<sup>1</sup>. Not many sherds were found here. The only shape recognisable is the fruitstand.

#### *Terra-cotta and Stone Figurines.*

Two of the terra-cotta figurines represent kneeling women (Fig. 141 *e, f*), and two others, one of which is well preserved and decorated in the red on white style, show standing women with the arms folded across the body just below the breasts as though supporting them (Fig. 141 *d*)<sup>2</sup>. Unfortunately all of these are headless. Several heads have been found, but it is not certain whether they all belong to any of these bodies or not. These heads have long necks and pointed crowns<sup>3</sup>; the noses are large and beak-like, and the eyes and mouths are indicated only by incisions (Fig. 141 *a-c*). It is to be noted that these female figures are markedly steatopygous. There are also two small animals of terra-cotta, well made in contrast to the human figures, which probably represent dogs.

Only two stone figurines have been found. One, which is a triangular piece of dark stone, is male. The parts of the body are very roughly indicated, and there are holes bored through the shoulders (Fig. 141 *g*). The other, which is headless, is female. The legs and arms are little more than stumps, but the hips are broad and fat (Fig. 141 *h*).

#### *Stone Axes and other Implements.*

Many celts were found, but none are bored celts of Type R. Knives of flint and obsidian were very common, but no arrow heads were found. Other implements include stone pounders and polishers, small red pebbles bored through for use as charms or ornaments, terra-cotta sling bullets, and bone pins.

#### G. DAULIS.

According to Furtwaengler and Loeschke<sup>4</sup> Stamatakis in 1881 cleared out a well on the acropolis of Daulis, and found in it a great quantity of vase fragments. The bulk of the prehistoric pottery seems to have consisted of "mattmalerei" with patterns in red or violet-black on a reddish or yellowish ground. Fragments of pithoi with vertical linear designs were common. Ordinary Mycenaean ware (L. M. III?) also occurred including fragments of pierced charcoal braziers. Obsidian knives and small stone whorls were not lacking. This pottery seems to have been mislaid as we have not been able to find it in the National Museum at Athens where it was seen by Furtwaengler and Loeschke.

<sup>1</sup> Eph. 'Apx. 1928, p. 83, Fig. 11, p. 86, Fig. 12.  
<sup>2</sup> Eph. 'Apx. 1928, Text Plate n. 2, 3.

<sup>3</sup> Eph. 'Apx. 1928, Text Plate n. 2, 3.  
<sup>4</sup> Mykenische Vasen, p. 44.

## H. THE SCHISTE.

Here Sotiriadhis<sup>1</sup> has excavated a prehistoric settlement on the small hill where stands the monument of Meghas. The finds include a large number of knives of obsidian and flint, several terra-cotta anchor ornaments<sup>2</sup> (Fig. 140*f*) and a few sherds of monochrome hand-made ware, some being incised, and others ribbed<sup>3</sup>. To judge by the presence of the anchor ornaments the settlement would be approximately contemporary with the Thessalian cist tombs, and the latter part of Orchomenos III. It is interesting to note that carbonised peas were found here.

## J. DELPHI.

Dr Karo informs us that there is in the Museum at Delphi one sherd of red on white neolithic pottery. It is not however published in the official book on the French excavations.

There have also been found here a few celts, some of which are bored, a few bored club heads, and a stone statuette which seems to resemble northern rather than Cycladic types<sup>4</sup>.

Three tholos tombs were also found, and various stray finds of pottery, and other objects were made, but there is nothing earlier than L. M. II, and the bulk of the pottery is L. M. III<sup>5</sup>.

## K. MANESI.

Near this village, which lies in the Phocian plain not far to the west of Dhrakhmani Sotiriadhis<sup>6</sup> has examined two prehistoric mounds (p. 11, no. 112). Unfortunately cultivation and later occupation have much disturbed them. But the finding of obsidian and flint knives as well as fragments of monochrome hand-made ware show that there was here a prehistoric settlement, and a few sherds recall the painted Chaeronea wares. An incised fragment<sup>7</sup> found here was thought by Sotiriadhis to be part of one of the typical Cycladic "frying-pan" vases. But it now appears that it is not.

## L. DHRAKHMANI.

In the neighbourhood of this village, which lies on the east side of the Phocian plain not far from the site of Elatea, Sotiriadhis has investigated three prehistoric sites<sup>8</sup>.

The first is a low mound south-east of the village on the land of Dr Khévas (p. 11, no. 111). Here traces of prehistoric huts were found, and quantities of vase fragments, and other signs of human habitation. The pottery falls into the same classes as Chaeronea, and need not be described in detail here. The following wares are represented, A3B, which is not so common as at Chaeronea, A3Y, B3Y, B38, and B36 (Fig. 142 *a-r*). The last three wares are

<sup>1</sup> Eph. Aeg. 1908, p. 65.

<sup>2</sup> Eph. Aeg. 1908, Text Plate 3 *a*, 9.

<sup>3</sup> Eph. Aeg. 1908, Text Plate 3 *c-f*, 21-22.

<sup>4</sup> Fouilles de Delphes 1, pp. 1 ff., Figs. 1-8, 12.

<sup>5</sup> Ibid. pp. 1 ff.

<sup>6</sup> Att. Mitt. 1906, pp. 396 ff.; Eph. Aeg. 1908,

p. 64.

<sup>7</sup> Eph. Aeg. 1908, p. 75, Fig. 6.

<sup>8</sup> Att. Mitt. 1905, pp. 134 ff.; 1906, pp. 396 ff.

Eph. Aeg. 1908, pp. 63 ff.

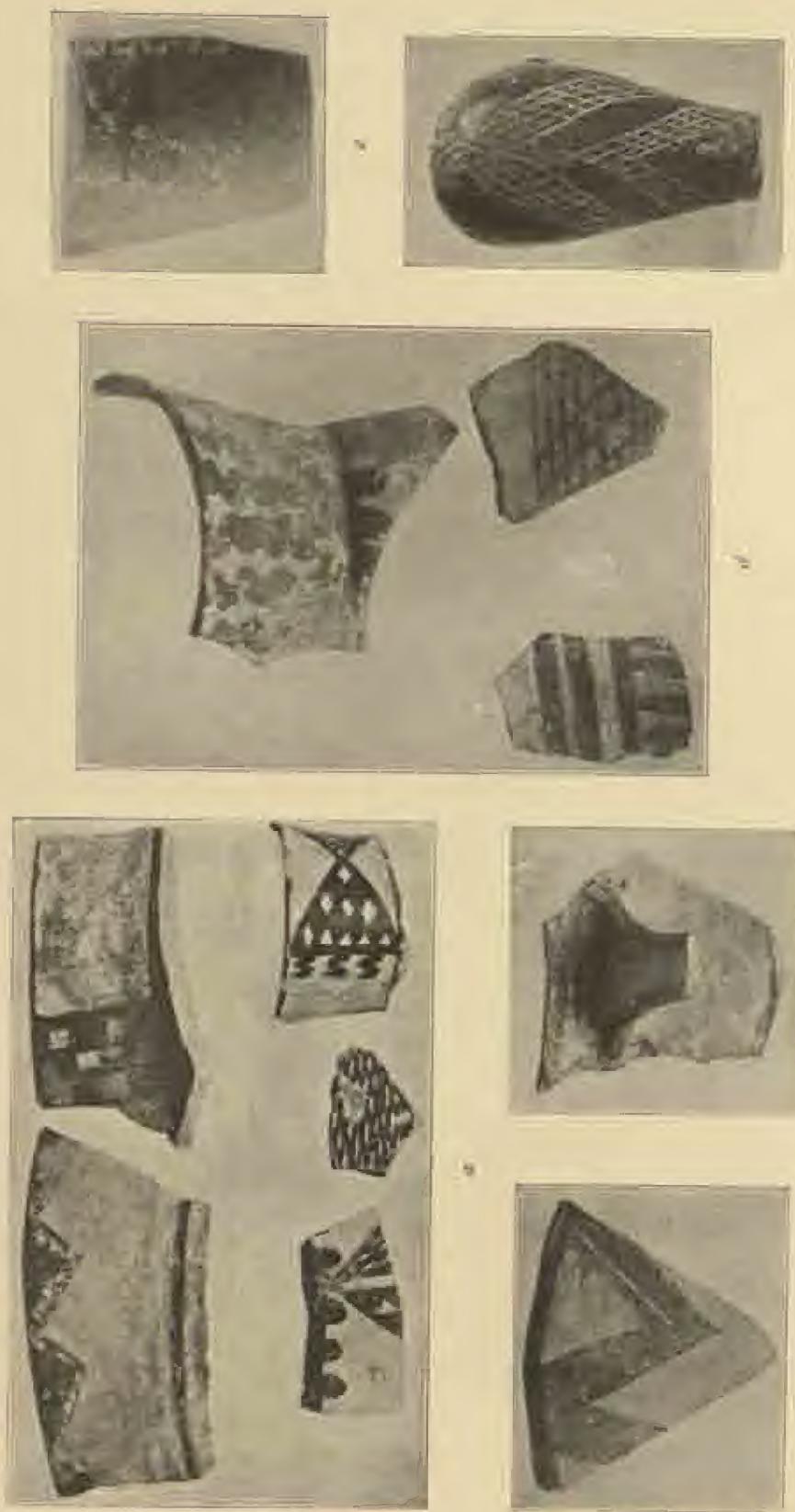


Fig. 142. Dhrakhtmani, a group of pottery fragments, a vessel base, a rim fragment, a decorated fragment, and a base fragment with a geometric pattern.

commoner than at Chaeronea, and pieces of fruitstands<sup>1</sup> are particularly noticeable, and closely resemble those from Tsangli. Knives of flint and obsidian were found, and also celts, amongst which a bored specimen should be noted. The deposit is about four metres deep. During the excavation a burial in the usual contracted attitude was discovered. Some incised ware was also found: like the sherds from Chaeronea the fragments are mostly pieces of the legs of vases (Fig. 142 f).

The second site explored lies north-west of the village and about half an hour from it among the vineyards on the land of Piperi-Yiannakópulos (p. 11, no. 110). There is an upper stratum which yielded Mycenaean ware (mostly L. M. III, and a few pieces of L. M. II), Minyan ware and one sherd of Mattinalerei. Below this no other strata are yet certain, but broken pottery is plentiful: it includes Α3β (third category), Α5γ, Β3γ, Β3δ, and Β3ε. The last three classes are especially common, but Α3β is rare. There were also a few sherds of Urfirnis, one of Γ1α2, and some that recall Γ1α1, and Γ1α3. Further careful exploration of this site should be very interesting, for it seems to show important connections between Thessalian and southern wares<sup>2</sup>.

The third site explored is a tumulus<sup>3</sup> lying at the foot of the hills to the north of the village, and on the right of the road leading to Thermopylae. The tumulus was about three metres high. The position of the body buried in it was marked by a pile of stones heaped over it. The skeleton, which was that of a woman, was in a contracted attitude. By it was a small pit filled with ashes, amongst which were the remains of burnt ears of corn: this was probably the funeral sacrifice. There were no signs of the burning of the body itself. With the skeleton were seven vases; two cups with two handles, differing slightly in shape<sup>4</sup>, of black ware; two large jars, one with an open, the other with a narrow neck, with horizontal pierced lugs<sup>5</sup>; a deep dish on a high foot also with horizontal pierced lugs<sup>6</sup>; and two beaked jugs, one is of yellowish ware and has decoration in matt black which includes the Cretan "butterfly"<sup>7</sup> pattern (Fig. 140 g), the other is taller, and has decoration in red on a black surface<sup>8</sup>. These two vases, if not actually imported from Crete, are so like certain Cretan vases of the first Middle Minoan period<sup>9</sup> that we must at least imagine them to have been directly influenced by Crete. By the body was found a bronze knife with the thigh bone of an ox, and there were four gold ornaments, of which two are earrings, the other two being rings to twist in the hair<sup>10</sup>. A few fragments of vases were found in the earth of the tumulus including one with white on black decoration like the so-called Kamares sherds from Orchomenos II, and a few odd pieces of bronze. On the top of the tumulus just below the surface was a large jar (Fig. 140 h) with geometric decoration in dull red on a buff surface: the patterns are also bordered by raised lines of

<sup>1</sup> Cf. 'Eph. 'Aρχ. 1908, p. 83, Fig. 11, 2, p. 86, Fig. 12, 1.

<sup>2</sup> Dr Sotiriadis has allowed us to examine his unpublished finds from this site in the Chaeronea Museum: *Hesperia* 1909, p. 157; 1910, pp. 159 ff.

<sup>3</sup> 'Eph. 'Aρχ. 1908, pp. 94 ff.; *Adh. ΜΗΣ* 1908, pp. 402 ff.

<sup>4</sup> 'Eph. 'Aρχ. 1908, pp. 93, 94, Figs. 14, 15.

<sup>5</sup> 'Eph. 'Aρχ. 1908, Text Plate 2.

<sup>6</sup> 'Eph. 'Aρχ. 1908, Pl. 3, 5.

<sup>7</sup> *CCJ, H. S.* 1908, p. 240, 4.

<sup>8</sup> 'Eph. 'Aρχ. 1908, Pl. 3, 2.

<sup>9</sup> *J. H. S.* 1905, p. 262, Fig. 1, Pla. IX-XI.

<sup>10</sup> 'Eph. 'Aρχ. 1908, p. 94, Fig. 16.

clay. The patterns and the shape of this jar recall the neolithic wares, of which it may be a development. But it must be remembered that this tumulus is quite isolated, and has no relation, as far as we can tell, to the prehistoric sites in the neighbourhood. If the two beaked jugs are really Cretan, their presence can be easily explained, for Dhrakhmani is not far from the sea at Atalandi, and Orchomenos we know was a great trading centre. Were they once part of the stock-in-trade of some adventurous merchant?

## CHAPTER X

### THE MYCENEAN PERIOD AND THE EARLY IRON AGE

#### A. THE MYCENEAN PERIOD.

IT is now well recognised that the civilisation, which is usually called Mycenaean, developed in Crete, and thence spread to other parts of the Greek world. This has been established by Dr Mackenzie's examination of the pottery sequences from Cnossus, and his results are confirmed by the evidence from other sites in Crete<sup>1</sup>. Thus Crete for all practical purposes may be regarded as the source of this civilisation. Up to the end of the Third Middle Minoan Period its connections with the mainland of Greece were, as far as we know at present, slight<sup>2</sup>. But from the beginning of the Late Minoan period it seems to have established itself on the mainland, and to have begun to create there subsidiary centres, which probably in the Third Late Minoan Period, after the fall of Cnossus, replaced Crete as the principal focus of civilisation. Of these centres the most important seem to have been in Argolis and Boeotia, though the latter district is not fully explored. But it is in the highest degree incorrect to assume that because there was in these districts a "Mycenean Period," there was therefore a uniform Mycenean Period all over Greece. Neither in prehistoric, nor in historic Greece, was there ever a uniform culture. There are many local varieties of Dipylon pottery, and of the Orientalising fabrics. Thus in Thessaly, which is remote from the centres of Minoan and Mycenean civilisation, it would be *a priori* unlikely that there should ever have been a full Mycenean Period<sup>3</sup> in the true sense of the phrase. This is clearly shown when we examine the evidence.

#### *Late Minoan II.*

No Minoan ware earlier than Late Minoan II has yet been found in the North Greek area, with the possible exception of the probable Middle Minoan vases from the Dhrikhamni tumulus<sup>4</sup>. From Thessaly we have the following instances:

Iolcus (Volos). Three vases, all in poor condition, from the tholos tomb at Kapakli<sup>5</sup>.

<sup>1</sup> *J. H. S.* 1903, pp. 157 ff., 1906, pp. 243 ff.; Boyd-Hawes, *Corinth: Monumental Antich.*, 1902 ff.

<sup>2</sup> E.g. at Tiryns (Schliemann, *Tiryns*, Pls. 26 d, 27 d) there are two pieces, and from the fourth shaft grave at Myrmec (Farrwengler-Loeschke, *Myc. Thangefässer*, Pl. VI) is one certain piece of M. M. III ware.

<sup>3</sup> As Tsandias apparently thinks, *Δ-Σ.* p. 361, note 1, p. 362.

<sup>4</sup> See Chapter IX, section L.

<sup>5</sup> *Εφ. Αρχ.* 1906, Pl. 12.

Pagasa. The seventeen vases from tombs<sup>1</sup>, which with one exception are in the collection of Mr Periklis Apostolidhis of Volos.

Maghula near Elassona. Four vases found here are in private possession in Larissa, where we have seen them. They resemble those from Pagasa<sup>2</sup>.

Nezeros on Olympus. The silver statuette<sup>3</sup> from Nezeros (Νέζερος) in the Ashmolean Museum at Oxford is often considered to belong to this period.

The vases mentioned are all without doubt L.M. II, and it is remarkable considering the number of prehistoric sites that have now been explored in Thessaly, that so few such vases have been found.

#### Late Minoan III.

North Thessaly. There are three vases (Fig. 143) from Gonnos in the Almiros Museum<sup>4</sup>; one of the Marmariani tholoi contained L.M. III vases<sup>5</sup>; a tomb, many sherds, and three gems of this period were discovered at Rakhmani<sup>6</sup>; and on the mound (p. 8, no. 24) near Metisell we have found a few sherds of L.M. III ware.



FIG. 143. Mycenaean (L.M. III) vases from Gonnos (scale 1:1).

South-Eastern Thessaly. Two tholos and two cist tombs with L.M. III vases were found at Dhimini<sup>7</sup>, where some sherds are also said to have occurred in the top of the prehistoric deposit; one Mycenaean tholos tomb was found at Sesklo<sup>8</sup>; and there are in the Volos Museum a few inferior vases of the same period from Iolcus (Volos Kastro)<sup>9</sup>.

Central Thessaly. We have seen one small sherd supposed to have come from Tsangli<sup>10</sup>.

West Thessaly. There is one sherd from Tsani Maghula<sup>11</sup>, and we have found others at Milos (p. 9, no. 44) near Pharsalus.

<sup>1</sup> *Ath. Mitt.* 1889, pp. 262 ff., Pls. VIII-XI.

<sup>4</sup> See Chapter IV.

<sup>2</sup> *Ath. Mitt.* 1889, Pls. VIII, IX.

<sup>5</sup> Δ-2, p. 115.

<sup>3</sup> *J.H.S.* 1901, p. 120, Fig. 16.

<sup>6</sup> Δ-2, p. 16.

<sup>4</sup> *Liverpool Annals* 1908, p. 133; *Ath. Mitt.*

<sup>7</sup> p. 114.

1909, p. 84.

<sup>8</sup> p. 145.

<sup>5</sup> See Chapter III.

South Thessaly. There are sherds from Phthiotic Thebes<sup>1</sup> and Zerelia<sup>2</sup>; in the Almiros Museum are sherds found in the neighbourhood; we have seen a broken gem<sup>3</sup> in private possession at Avaritsa (Melitaea); and a tholos tomb has been found at Ghura<sup>4</sup>. Some doubt has been thrown on this tomb, but we have examined the site, and tried to find out what it contained. The tomb is now a lime-kiln, 270 m. high and 355 m. wide in its present state. Some peasants were digging to make a lime-kiln, and found a walled-up door, which they opened. Finding a round space within, well suited for a lime-kiln, they cleared it and utilised it as such. In so doing they found some broken pots, now lost, some conical steatite whorls, and a pair of bronze tweezers, which are now in the Museum at Almiros.

This completes the list of vases and other objects of L.M. II or L.M. III date from Thessaly which are known to us. We have not detailed again here the L.M. II and L.M. III finds in Phocis and North Boeotia just mentioned in the last Chapter. We thus see that Mycenean influence in Thessaly began in the Second Late Minoan Period, and then mainly at Iolcus, as is only natural. In the Third Late Minoan Period it seems to have spread generally, but thinly about Thessaly. That is to say it never dispossessed the local culture, and seems to have existed by side of it in its latest phase, the end of the Fourth Period, and to have continued in existence when the primitive geometric vases of the Marmariani-Theotoku style began to be made. To these we must now turn our attention.

#### B. THE EARLY IRON AGE.

Only two groups have yet been published of the vases found in North Greece which may be attributed to the very end of the Bronze Age, or to the beginning of the Iron Age; for these two periods must have overlapped.

#### Skyros.

Mr Dawkins has published some vases, which are of class  $\Delta 1a$ , from two tombs found in this island<sup>5</sup>. These are shown in Fig. 144. From one tomb come three vases (*a*, *b*, *c*); and in the same tomb, which was square, was also some gold wire and a kernos. From the other come six vases; four are shown in Fig. 144 *d*, *e*, *f*, *g*, and the other two were like *e* and *g*. The three vases from the first tomb Mr Dawkins considered to belong to the latest Mycenean times. The vases from the second tomb he considered to be of geometric style, but to have nothing in common with the Dipylon geometric style of the mainland. For him these vases represent the old Aegean culture, "which lingered in a state of isolation in the islands, while on the mainland it was being swept away by invasions and alien streams of influence." This view requires considerable modification.

<sup>1</sup> p. 167.

<sup>2</sup> p. 159.

<sup>3</sup> It is of red carnelian, and in the possession of a peasant who values it as a *temparízo*, a charm for stopping bleeding.

<sup>4</sup> *Ath. Mitt.* 1896, p. 247; Tsoukias-Manatt, *The Mycenaean Age*, p. 395.

<sup>5</sup> *R. S. A.* XI, pp. 28 ff.

The points to be noted are the two painted vases from the first tomb decorated with red-brown, glaze paint, and the presence of a beaked jug similar to those of  $\Delta 2a$  from the cist tombs at Sesklo and Dhimini. This is exactly paralleled by Tomb *A* at Theotoku.

*Theotoku.*

In June 1907 we excavated a small site at the south-eastern corner of the Magnesian peninsula at a site called 'Theotoku', a little to the north of the bay of Kato Yeóryi (Κάτω Τέλη). The site itself is at the seaward end of a narrow valley, where a brook flows into a small cove. The existence of several drums of Doric columns in the neighbourhood of a modern chapel

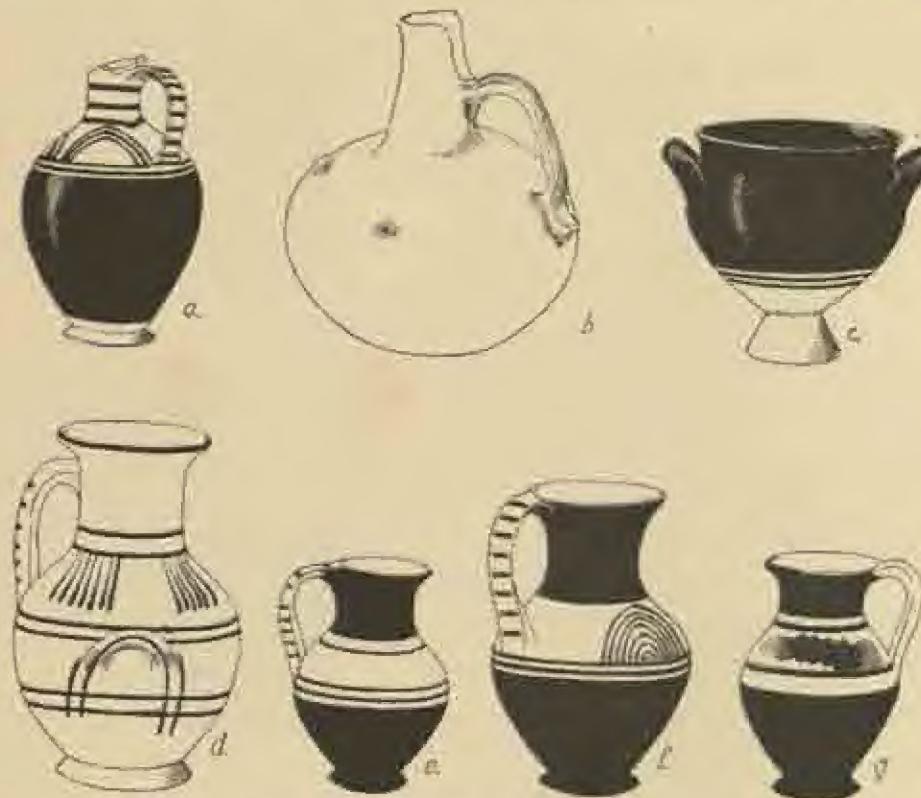


FIG. 144. Vases from Skyrus (scale 1 : 4).

led to this excavation. No Doric temple was however found, but an early Byzantine church, traces of a small Greek town, and three early iron age tombs were discovered. The tombs alone concern us here. All three were cist tombs built with slabs, and in none were any traces of burning observed. All the vases are of class  $\Delta 1a$ .

Tomb *A*. This was built of four slabs, one on each side, and roofed with two others: the floor was covered with gravel laid on a layer of rough stones. It was 1.50 m. long by .68 m. wide, and it was found at a depth of

<sup>1</sup> *B. S. A.* xii, pp. 300 ff.



FIG. 445. Theotoku: vases from Tomb A (scale: 1:4).



FIG. 146. Theotoku: bases from Tombs B (left) and C (right) (scale 1 : 4);  $\frac{1}{5}$  view of Tomb A after removal of roof

1.40 m. below the present surface. In it were four skeletons, of which two seem to have been male, and two female. The bodies were placed one on top of another in a slightly contracted attitude. Eighteen wheel-made vases were found grouped at the head and foot of the tomb (Fig. 146*g*). These are illustrated in Fig. 145. The following shapes are represented:

Oinochoai with trefoil lips, five: two have patterns in red-brown, and three in black glazed paint: two also are mended with leaden rivets (Fig. 145*f*).

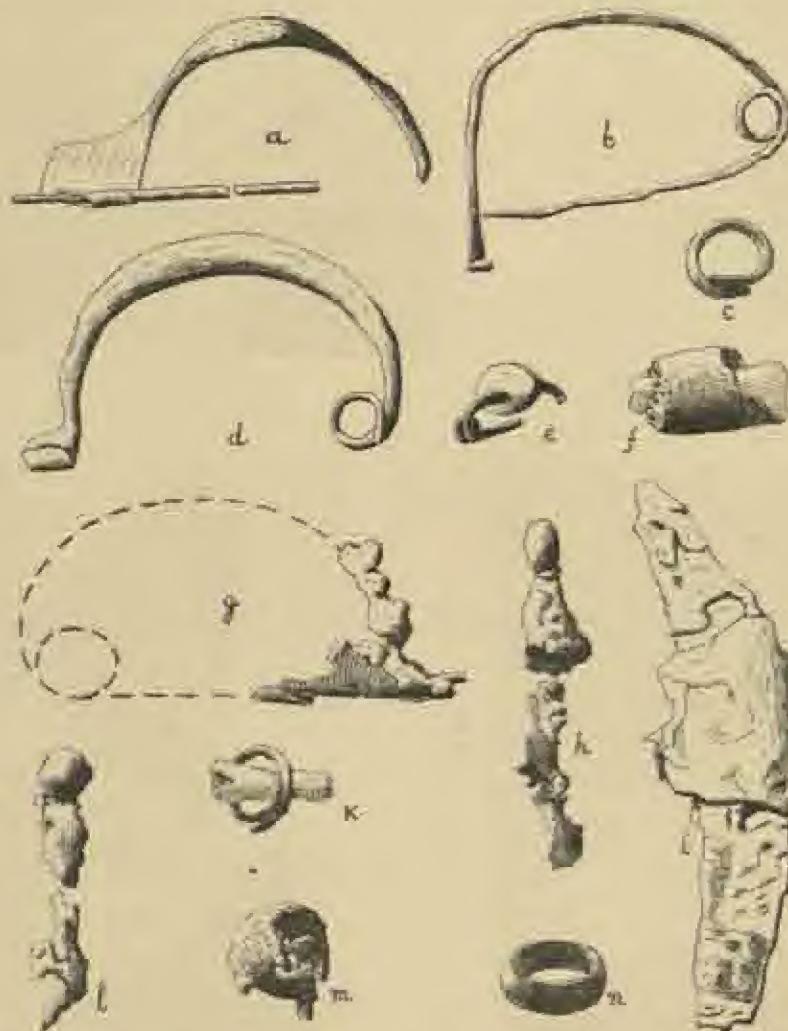


FIG. 147. Theotoku: bronzes, etc., from the tombs [scale 2:3].

Bowls with two high handles, five: four have geometric patterns in black glazed paint, and the other is undecorated and of grey clay (Fig. 145*e,g*).

One-handled cups, four: two have geometric patterns in red-brown (Fig. 145*e*), one, which had had its handle riveted on with lead, is painted red-brown all over (Fig. 145*b*), and the fourth is painted black all over (Fig. 145*a*).

Bowls with horizontal loop handles, three: two are covered with red-brown, and the third with blackish paint all over, Fig. 145*d*.

Beaked jug, with the back of neck cut away above the top of the handle, one specimen of red clay, undecorated (Δ2a), Fig. 145*h*.

Four bronze fibulae, and nine rings (Fig. 147 *a, d-f*) were also found. Three of the fibulae were by the shoulders, and one at the level of the waist. Several of the rings were still on the fingers: in two cases the hands were by the waist, and in two cases bent upwards towards the head.

Tomb *B*. This was built of six slabs, one for each side, the bottom, and the roof. The sides are 49 m. high and set in gravel; the whole tomb measures 1·26 m. by 36 m., and is of the usual cist type. It contained one skeleton in a slightly contracted attitude. In the tomb were six vases:

Oinochoai with trefoil lips, two, both alike, Figs. 146 *b, c*.

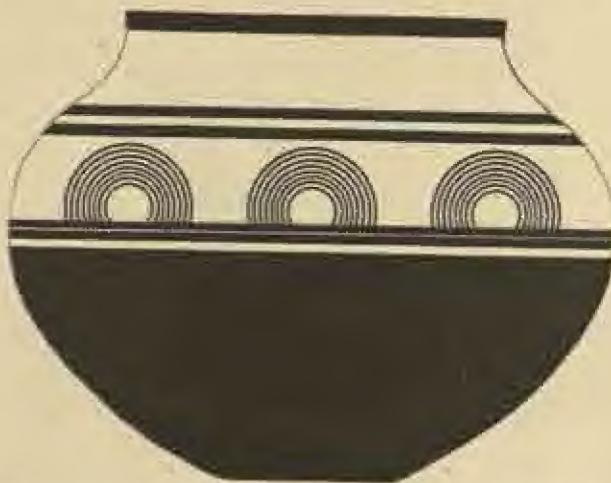


FIG. 148. Theotoku: pattern on vase from tomb *B* (cf. Fig. 146-*b*) (scale 1:4).

Cup with one handle, one, Fig. 146*e*: covered all over with red-brown paint, and with a raised base.

Amphora, one, Fig. 146*a*.

Bowl with two horizontal handles and a raised base, one, Fig. 146*d*: covered all over with black paint.

Bowl with excentric cup on one side, Fig. 146*c*, one, covered all over with black paint. The one-handled cup was found inside this.

In the tomb were also three pins with bronze heads and iron shafts, the bronze head of another, and parts of the iron shafts of two more (Fig. 147 *b, f*). Three were on the shoulder, one on the breast, and two at the waist. Three bronze and one iron ring, a portion of an iron blade, and what may be the remains of an iron fibula were also found (Fig. 147 *k, m, n, i, g*), together with a grey terra-cotta whorl. Portions of coarse linen were in some cases still adhering to the rusted iron.

Tomb *C*. This was a child's grave, and measured only 73 m. by 36 m.: it was a simple cist, built with four slabs, roofed with a fifth, and floored with gravel. At the foot of the grave was a jug with a trefoil lip (Fig. 146*f*), like

those from Tombs *A* and *B*, but the handle does not reach right up to the lip. A bronze fibula and ring, and an iron ring were also found (Fig. 146 *b, c*).

In considering these tombs we may take *B* and *C* together, but it is necessary to examine their relation to Tomb *A*. The type common to both groups of vases is the trefoil oinochoe. The two groups differ in the following points: in *A* are five bowls with high handles and the beaked jug, types that do not occur in *B* or *C*; in *B* the bowl with the excrescent cup, and two other vases have raised bases. No difference in fabric is to be observed, but vases with red-brown paint occur in *A*, and not in *B*. The presence of the beaked jug in *A* might at first sight suggest that this tomb is the earlier. It is possible that there were several interments in *A*. But when we consider the Skyros vases, we see that the first tomb there contains a beaked jug like that from Tomb *A*, and a bowl on a raised base like those from Tomb *B*. Thus it is probable that the Theotoku tombs all belong to the same date, and are contemporaneous with those from Skyros.

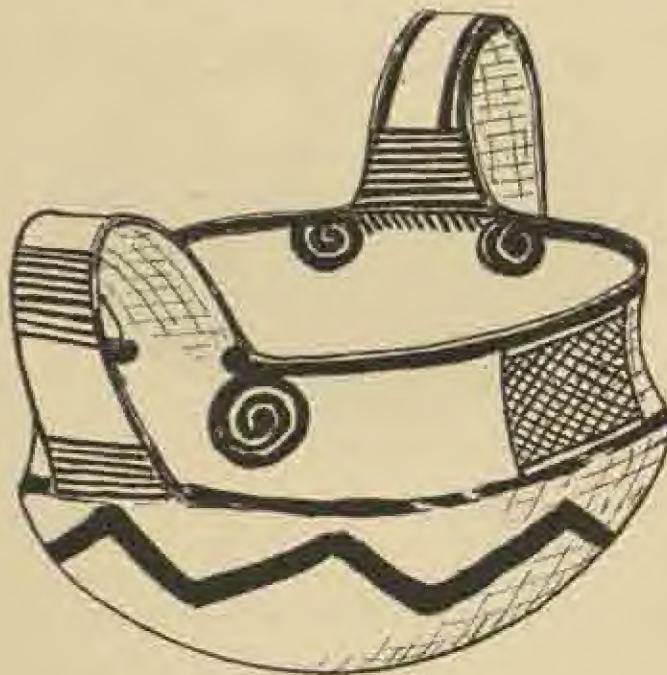


FIG. 149. Vase from Khassan Tatar (scale 1 : 2)

Two other tomb groups fall into the same context, but unfortunately they are not yet published. They have been found at the two following sites:

*Marmariani*<sup>1</sup>. Of the seven tholos tombs excavated here, one contained L.M. III vases, and the other six iron weapons and primitive geometric vases (*A1a*) like those from Skyros and Theotoku. The most prominent shape amongst them is a beaked jug with the back of the neck cut away above the handle. These are decorated with geometric patterns like those from Theotoku, and some are unpainted.

<sup>1</sup> *Opere XXX* 1899, p. 161.

*Sesklo.* Here Tsundas<sup>1</sup> found several tholos tombs, one of which contained Mycenaean vases, while the others contained vases like those from Marmariani.

To this general class of ware, which we have above classed as  $\Delta 1a$  and  $\Delta 2a$ , we can add four other vases from Thessaly. These are:

*Khassan Tatar* (Χασσάν Τατάρ), west of Larissa. Here was found the two-handled bowl shown in Fig. 149. The bowl does not appear to be wheel-made, and the paint is not lustrous. Most noticeable is the presence of spirals in the pattern by the handles, which recalls the  $\Delta 1\beta$  ware from Lianokladhi. The biscuit is deep red.

*Pagase.* In the collection of Mr Periklis Apostolidhis is a jug of  $\Delta 1a$  ware from this site<sup>2</sup>. It is to be noted that the arrangement of its pattern is on the zone system similar to that of the  $\Delta 1\beta$  ware from Lianokladhi.

*Dhomokos.* Two vases from the neighbourhood of this town are known. One (Fig. 150) is in the Volos Museum: its handle was apparently broken off in antiquity, and then the holes were bored through the neck. The biscuit is soft and red. Round the top of the body are traces of decoration in matt black. This, since it is a beaked jug with the back of the neck cut away above the handle, should be classed as  $\Delta 1a$ , but it closely recalls the  $\Delta 1\beta$  ware from Lianokladhi. The other vase is a beaked jug of the usual type ( $\Delta 2a$ ), but unpainted, in the Fitzwilliam Museum at Cambridge.

To these we can also add three sherds from Zerelia VIII<sup>3</sup>, two beaked jugs from Tombs 17 and 47 at Sesklo, and two more from Tombs 57 and 61 at Dhimini, which show that this shape was in use in the latter part of the Fourth Period.

We thus see that as far as we can tell from the evidence at present before us, this primitive geometric ware ( $\Delta 1a$ ) is a local Thessalian fabric. It also seems likely that in origin it is connected with the hand-made geometric ware ( $\Delta 1\beta$ ) of Lianokladhi III. The three vases, from Pagase, Khassan Tatar, and the Volos example from Dhomokos, that from their fabric we should feel inclined to class as the earliest, are also those which show the greatest likeness to  $\Delta 1\beta$ . The Dhomokos vase resembles the Lianokladhi ware in the colour of the biscuit, the Pagase vase in the zone treatment of the pattern, and the Khassan Tatar bowl has painted spirals at the base of the handles, a prominent characteristic of  $\Delta 1\beta$ . That the Lianokladhi III ware penetrated into Thessaly and Boeotia is proved by the sherds from Orchomenos, Tsangli and Rini. Therefore we may consider the three vases as developed examples of  $\Delta 1\beta$ , or of some parallel style. Next in order come the vases from Sesklo and Marmariani. These it must be remembered were found in tholos tombs, and of these tholos tombs two, one at each site, contained L.M. III vases. Similar sherds were found with L.M. III ware in Rakhamani IV. Is it then possible that the  $\Delta 1a$  ware represents the development of a later influx of geometric

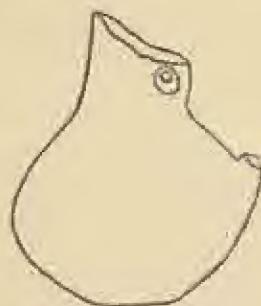


FIG. 150. Vase from Dhomokos (scale 1:4).

<sup>1</sup> Δ. 2, pp. 113, 121.

<sup>2</sup> *AA. Mitt.* 1889, p. 266, Pl. 12, 8. Tsundas (Δ. 2, p. 212, note 1) thought it is a late example of L.M. III ware; as also did Wolters, <sup>3</sup> p. 159.

pottery from the north, under the influence of L.M. III ware domiciled in Thessaly? The latest vases of this class are probably those from Skyros and Theotoku, the latter being the latest of all. But though these approach the Dipylon geometric style, they do not come very close to it.

The Dipylon vases, that Wide<sup>1</sup> considers the earliest, have considerable likeness to the Theotoku vases. These, be it noted, all come from the islands, or those districts of the mainland where the Creto-Mycenean influence was most felt, Thera<sup>2</sup>, Melos<sup>3</sup>, Ios<sup>4</sup>, Paros<sup>5</sup>, Amorgos<sup>6</sup>, Rhodes<sup>7</sup>, Lemnos<sup>8</sup>, Argolis<sup>9</sup>, Athens<sup>10</sup>, Eleusis<sup>11</sup> and Orechomenos<sup>12</sup>. Further, they have strong resemblances to the geometric ware of Crete<sup>13</sup>, the peculiarities of which Droop considers due to a "strong survival of Minoan ceramic art!"<sup>14</sup>. Also into the same context come the vases found by Paton at Assarlik in Caria<sup>15</sup> in tholos tombs, which also contained iron weapons. This same class, as recently shown by Wide, is also related to the late L.M. III vases from Salamis<sup>16</sup>, amongst which the oinochae with a trefoil lip is prominent, and two bigelkannen from Athens and Nauplia<sup>17</sup>. Thus Wide's "Proto-Dipylon" class, as we may call it, in its turn too has points of contact with the latest Late Minoan vases.

May we then venture on this evidence to reconstruct the history of the geometric style? About the beginning (or perhaps somewhat earlier) of the Second Late Minoan Period the geometric style first appears in a very primitive form on hand-made pots at Lianokladhi. It appears next in Thessaly, and seems to influence the L.M. III wares, never common in the north, and already in their decline. The result is the Marmariani-Theotoku style in which both geometric and Mycenean elements can be seen. The same fusion of styles, which we have noticed in certain vases from the islands and Southern Greece, probably arose in the same way, but the final triumph of geometric designs, as seen in the full Dipylon style, seems to indicate yet another and a later infusion of true geometric wares. Since the Lianokladhi III (Δ:β) ware has no connection with any contemporary ware either in Thessaly or in the south, it was probably due to an invasion coming over the passes of Tymphrestus from Epirus, and the later waves of geometric influence, which seem to be required for the full Dipylon style, may well have originated in the same general direction. On the other hand the early iron age vases from Pateli<sup>18</sup> on Lake Ostrovo, among which beaked jugs with a cut away neck, some decorated with simple geometric patterns, are prominent, seem to indicate an origin more directly to the north. In the period after the formation of the Marmariani-Theotoku style the great majority of the Thessalian prehistoric sites were deserted.

<sup>1</sup> *Jahrbuch*, 1900, pp. 49 ff.

<sup>2</sup> Müller von Gaertringen, *Thera II*, p. 30, Fig. 79, p. 71, Fig. 243, pp. 311 ff.; see also Drägenstorff's remarks, *ibid.* pp. 172 ff.

<sup>3</sup> Wide, *op. cit.*, loc. cit.

<sup>4</sup> There is one vase in the Museum at Ios.

<sup>5</sup> There is one sherd in the Museum at Paros.

<sup>6</sup> Drägenstorff, *op. cit.* p. 31, pp. 23 ff.

<sup>7</sup> *op. cit.*, p. 60.

<sup>8</sup> *J. H. S.* 1887, pp. 66 ff., cf. especially the vase shown in Fig. 8, p. 69.

<sup>9</sup> *Ath. Mitt.* 1910, pp. 17 ff., Pls. V, VI.

<sup>10</sup> *Ath. Mitt.* 1910, pp. 33, 34.

<sup>11</sup> In the Constantinople Museum; unpublished. With them were found spearheads, fibulae, and other bronzes of the period of geometric pottery, like those from Phthiotic Thebes. We have seen similar bronzes from tombs in the neighbourhood of Berthaea.

## CHAPTER XI

### ARCHITECTURE

THE architectural remains have already been described above in the accounts of the several excavated sites, but a general discussion of the various house types, their possible relation to one another, their development and origin has been reserved for the present chapter.

The best evidence for house plans of the First (Neolithic) Period is at Tsangli, where there is one complete example, and three others in fair preservation, one resting upon the other. At Sesklo, too, there are considerable remains, and also at Orchomenos; part of a house was uncovered at Zerelia, but the complete plan could not be ascertained. It seemed however to have been rectangular, and to be built of sun dried brick resting on a single course of flat slabs, in this respect differing from all other examples, which are built of wattle and daub with or without a stone foundation, or else entirely of stones, as seems to have been the case at Sesklo.

The Tsangli houses<sup>1</sup> are all of the same square type with internal buttresses, and the existence of three superimposed houses, which differ only in the number of buttresses, shows that this type continued for a long period of time. The latest of this series may perhaps be contemporary with the earliest Second Period houses at Sesklo and Dhimini.

The remains at Sesklo<sup>2</sup> though plentiful are disappointing, for no large plan is really well preserved. The prevalent type is rectangular, and there is one certain example of a one-roomed broad-fronted hut similar to the neolithic type that occurs in Crete and elsewhere. Whether this was the normal plan at Sesklo is uncertain, but since the most ingenious reconstructions cannot make the Sesklo houses like those at Tsangli we can safely conclude that at two sites only some few hours apart there was a difference in house types, although in all other respects the cultures were precisely the same. Close to Sesklo itself are the remains of round wattle huts, and such dwellings probably existed in Thessaly in every age. Orchomenos<sup>3</sup> is a striking contrast to both Sesklo and Tsangli, for there only round buildings occur, but Orchomenos from its position and subsequent history can hardly be considered a typical northern site. The only evidence at all for fortifications is confined to a few fragmentary walls at Sesklo, but the possibility of wooden palisades, which might leave few traces behind them, cannot yet be excluded.

After the end of the First Period at Orchomenos the *Urfirnis* style of pottery comes in, and houses of an oval shape with one flat end succeed the earlier circular type. At Sesklo and Dhimini, where alone in Thessaly is there

<sup>1</sup> pp. 115 ff.

<sup>2</sup> pp. 64 ff.

<sup>3</sup> p. 195

architectural evidence for the Second (Neolithic) Period, there is of course no Urnäische stratum at all, but a rich deposit of painted wares. These two sites, which are barely an hour apart, are similar in every way, and may be therefore taken together. In both cases rectangular house plans prevail as might be expected from the evidence for the First Period at Sesklo; but the larger houses or megarai, and the system of fortifications require some consideration, since they have been compared to other buildings outside Northern Greece. The fortifications in question consist of a series of ring walls of but moderate height, and their strength lies not so much in the actual walls as in the successive lines of defence such a system provides, and in the narrow and tortuous alleys by which alone the centre of the village could be gained. Analogies have been suggested between the walls at Dhimini and the fortified towns<sup>1</sup> of Khalandriani (Χαλανδριανή) in Syros, Ayios Andreas (Αγιος Ανδρέας) in Siphnos and the second city at Phylakopi, and thus the rude Thessalian ring walls have been regarded as the prototype of the Mycenaean mainland citadels with their massive single walls and strongly guarded gates.

The relative chronology of the three island fortified towns is fortunately ascertainable. Khalandriani with three walls is the oldest, Ayios Andreas with two walls comes next, and Phylakopi with also two walls is the latest. Thus there is an advance in date and development from north to south. Is then Dhimini, which is still further north and more primitive, the prototype of all three and consequently earlier in date? Tsundas assumes that it is, and arranges his chronology accordingly, but if he is right the following situation arises.

The red-on-white pottery of the First Period must be placed altogether earlier than any object yet found in the Cyclades. This seems improbable, but not impossible. The Second Period however thus overlaps with the early Cycladic spiral decoration; this at first sight may seem in favour of Tsundas' theory, but Thessalian spiral decoration, which occurs on painted wares, resembles the painted spirals further north, and has little affinity to the Cycladic incised ornament. But the vital objection to putting the Dhimini walls so early is that it leaves an enormous period almost unrepresented by remains. Tsundas himself assumed a real Mycenaean period to fill this gap, but subsequent excavations have shown that there is no long Mycenaean period in Thessaly at all. Thus the walls of Dhimini must be put centuries later than Tsundas suggests. Their resemblance to the island fortifications however must be admitted, and they may ultimately prove to have the same origin; but any early people are likely to make fortifications of the Dhimini-type; they require little skill to build and the village can easily be enlarged, when required, by the addition of another wall, as in fact seems to have happened at Dhimini itself. North Greece was always backward and it is only natural to find a primitive system of defence, based possibly on earthworks like those at Priesterhügel<sup>2</sup> still in vogue in Thessaly at a late date.

The houses and particularly the large megarai at Dhimini and Sesklo have already given rise to controversy<sup>3</sup>. The point at issue is briefly this: the

<sup>1</sup> Δ. 2, pp. 586 ff.; *Ed. Ap. 1893*, pp. 115 ff.; *Excavations at Phylakopi*, pp. 256 ff.

<sup>2</sup> *Mitteil. der anthrop. Gesell. in Wien* 1900, pp. 193 ff.

<sup>3</sup> Cf. Mackenzie, *Ob. Δ. 1.* XIV, pp. 343 ff.; *Jolles, Arch. Anz. 1909*, pp. 472 ff.; Δ. 2, pp. 390 ff.; *Philol. tr. tr. d. 1916*, pp. 827 ff.

Thessalian megara bear a strong resemblance to the Mycenaean megara at Tiryns and Mycenae; and Tsundas, who with Noack believes that the mainland palaces are in origin different from those in Crete<sup>1</sup>, regards the Thessalian megaron as the forerunner of the mainland palace and also the Doric temple. Mackenzie on the other hand regards the Cretan and mainland palaces and the Thessalian megara as having all evolved from the same prototype. He postulates a broad-fronted hut with a central hearth, a type that occurs in Crete and also at Sesklo in the First Period. Out of this primitive plan—assuming an increase in the number of rooms is made by adding, and not by subdividing—a house of a "b'ut and b'en" type is easily evolved, and the original broad-fronted hut becomes a narrow-fronted house.

Traces of its original broad-fronted character will, however, occasionally remain in the proportions of the back room. Megaron B at Dhimini is a case in point. The front room is the living room with a fire, and the back room is used perhaps for stores. Climatic conditions have here to be considered. In the mild climate of Crete no fixed hearth was necessary, but further north the hearth became a fixed point, and its old central position in the living room, when the house had evolved into one of a "b'ut and b'en" type, was no longer convenient owing to draughts, and the only real solution to obviate the ensuing smoke nuisance was to isolate the living room, as was done in the mainland palaces. At Dhimini and Sesklo however there is an intermediate and experimental stage, which need not have occurred in practice in every place; the hearth is moved out of its central position and placed either to one side or else close to the back wall<sup>2</sup>.

The above ingenious theory does not seem to insist on any direct connection between the Mycenaean and Thessalian megara, but only requires a common prototype, and so seems preferable to Tsundas' theory which over-emphasizes the influence of the Thessalian types. At the same time however it seems very doubtful if Mackenzie's hypothetical prototype can be used to prove similarity of race. Whether the megaron type of house continued beyond the Second Period at Dhimini and Sesklo is uncertain, but a house, apparently of the same shape, was found in the latest (third) stratum at Lianokhidi. The plan is not absolutely certain, but the hearth seems to be placed near the centre. The continuance of the Thessalian megaron type in Northern Greece may, as Tsundas suggests, have influenced the later Doric temple.

For the Third Period the only evidence as yet is House Q at Rakhmani, but as this is clearly a simpler form of House P at the same site, which is of later date, we may pass on at once to the Fourth Period, in which we have a variety of evidence. The later types at Sesklo and Dhimini are apparently rectangular, though it must be noted that the evidence is very scanty and may belong to the Third as well as to the Fourth Period. At Rakhmani there is a long narrow house with one curved end; at Rini a true oval house; at Lianokhidi, as we have already seen, a probable megaron. Orchomenos by this time has become a Mycenaean city and so concerns us no longer.

<sup>1</sup> The L.M. III palace at Ayia Triada is said to be of the mainland type, but this is still *indubitable*.

<sup>2</sup> Figs. 34, 39 B, pp. 65, 81.

The Rini house may be a development from the same type as the two Rakhmani houses, but apart from this possible connection the house types of the last prehistoric period seem to be very different. The conclusion, to which the above evidence seems to point, is that in Northern Greece no one house type was ever universal. The most constant shape is perhaps the Dhimini megaron; round houses at present seem to be far more prevalent at Orchomenos than elsewhere; but it is useless to attempt to explain the vagaries of early North Greek architecture, until more is known of the regions lying immediately to the north of Thessaly.

## CHAPTER XII

### CONNECTIONS WITH THE SOUTH

BEFORE we can proceed to sum up generally the results of our examination of the prehistoric remains of North-Eastern Greece, we must briefly review the prehistoric discoveries made to the south of Lake Kopais, which, as said above, forms, as far as our present knowledge extends, the southern limit of the North Greek area.

*Bocotia, Phocis, etc.* At Thebes<sup>1</sup> on the Cadmea remains of extensive prehistoric occupation have been brought to light, and tholos and chamber tombs have been found near the town. The pottery and other objects found fall within the second and third Late Minoan periods, to the latter of which the bulk of the finds from the Cadmea belong. At Ayios Theodhoros (*Ayios Θεοδώρος*), near Anticyra, and elsewhere on the littoral of the Corinthian gulf tombs of the L.M. III period have been found<sup>2</sup>.

*Attica.* On the Acropolis<sup>3</sup> at Athens some monochrome and incised sherds were found; amongst them was one grey sherd, which is perhaps Minyan. The incised fragments recall those from Aphidna. The other prehistoric sherds are L.M. II or III. On the slope of the Acropolis<sup>4</sup> by the Odeion of Herodes Atticus a tomb of unbaked brick was discovered with upper and lower interments. With the bones were eleven obsidian arrow heads of the hafted type, and several sherds of Minyan ware: a small jug of rough hand-made ware was found near by.

At Aphidna<sup>5</sup> Wide opened a tumulus in which he found thirteen graves. These were of three kinds, (1) shaft graves, (2) large pithoi lying on their sides, and (3) cist tombs of slabs. The small objects found show that these graves fall in the bronze age. The pottery however is peculiar, and does not resemble very closely any known kind of ware. It falls into two classes, (1) grey or brown-black monochrome ware, either plain or incised, (2) bowls with simple geometric ornament on a white ground. The first class recalls slightly the earliest ware from Thorikos, and the second the spouted Melian bowls which first appear in Middle Cycladic II. But till further exploration in Attica these finds cannot be placed in their right context.

<sup>1</sup> Naturally this is not meant to be a complete record of prehistoric finds in Southern Greece, but only of the more important, and of those where a connection with North Greece is to be sought.

<sup>2</sup> Keramopoulos, *Εργ. Αρχ.* 1909, pp. 57 ff., 1910, pp. 209 ff.; Damerad 1910, pp. 152 ff.

<sup>3</sup> *Mémoirs* 11, p. 98; cf. *Ath. Mitt.* 1889, pp. 267 ff.; 1905, p. 394; *Ilpaeris* 1908, p. 100.

<sup>4</sup> Gräfe, *Archaische Vasen*, Pls. 1 ff., pp. 1 ff.

<sup>5</sup> *Εργ. Αρχ.* 1902, pp. 123 ff.; cf. Bulle, *Orchomenos* 1, p. 62.

<sup>6</sup> *Ath. Mitt.* 1896, pp. 383 ff., Pls. XIII ff.

At Thorikos Stais<sup>1</sup> explored the acropolis, and found remains of houses in which he distinguished two strata. In the lower and earlier stratum he found blackish hand-made ware often decorated with incisions, and some fragments with patterns in white on a reddish or black surface. In the upper stratum he found much Mycenaean ware (probably L.M. III), and also some Minyan ware. Amongst the houses were also found some pithos graves.

At Eleusis Skias<sup>2</sup> has explored part of a prehistoric necropolis that lies between the acropolis and the sea. Two of the graves seem to have been of unbaked brick like those of Orchomenos III<sup>3</sup>. But the bulk of the pottery found occurred in connection with "pyres," so that it appears that cremation took place here. Minyan ware is very common, and also ordinary Mycenaean (L.M. III), and there is a good deal of Mattmalerei, and a few pieces of L.M. II. The most interesting point about this necropolis is that Minyan ware was found both with Mattmalerei and L.M. III<sup>4</sup>.

The other prehistoric finds in Attica at Menidi (Μενίδη), Spata (Σπάτα), Markópulo (Μαρκόπουλο), Aliki (Άλικι), Brauron and Thorikos<sup>5</sup> are all of the second or third Late Minoan periods. More important is the necropolis explored in Salamis which falls at the very end of the third Late Minoan age<sup>6</sup>. The vases found here are most important, for they show a transitional stage of decoration between the third Late Minoan style and the geometric Dipylon style. As remarked above, several of the vases in their patterns recall the Thessalian geometric ware of the Marmariani-Theotoku style.

*Euboea.* In the neighbourhood of Chalcis tombs containing pottery and other objects of the Early Cycladic period have been found. These are important, for this is so far the northern limit of the Cycladic culture<sup>7</sup>. Also in recent years several Mycenaean tholos tombs have been excavated in the districts of Chalcis and Kyme, but few of the objects seem to be earlier than L.M. II<sup>8</sup>.

*Aegina.* The site of the temple of Aphrodite has been explored by Stais<sup>9</sup> and by Furtwaengler<sup>10</sup>. The stratification here seems to have been quite clear. The lowest stratum contained according to Furtwaengler "vor- und frühmykenisch-geometrische" pottery, by which Mattmalerei is presumably meant, similar to the vases found by Stais. These consist principally of large pithoi with linear ornament in black on a greenish white ground, which in shape appear to be a development, like the pithoi from Argos, of the Early Cycladic type in Melos<sup>11</sup>. There are also flat, open bowls similar to those from Melos, which first appear in Middle Cycladic. With this ware apparently was found Minyan ware of the Orchomenos style, which is very common on this site. Above this was a later stratum said to contain late Mycenaean ware, presumably L.M. III. But as no report of the excavation has yet been

<sup>1</sup> *Homeric* 1893, p. 16; *Eph. Arq.* 1895, p. 234.

<sup>2</sup> *Eph. Arq.* 1898, pp. 51 ff. (he calls Minyan ware Lydian).

<sup>3</sup> *Eph. Arq.* 1898, p. 29; cf. Bulle, *Orchomenos* I, p. 68.

<sup>4</sup> *Eph. Arq.* 1898, pp. 52, 57, 73.

<sup>5</sup> *Eph. Arq.* 1893, pp. 193 ff., Tsountas-Manatt, *Mycenaean Age*, pp. 106, 383 ff.

<sup>6</sup> *Ath. Mitt.* 1910, pp. 17 ff.; see above, p. 210.

<sup>7</sup> Παναθηναϊκον. Περὶ τῶν ἀπ. Εἰδῶν ἡρώων τοῖς, pp. 1 ff.

<sup>8</sup> *Homeric*, op. cit., pp. 21 ff.

<sup>9</sup> *Eph. Arq.* 1895, pp. 235 ff., cf. *Ibid.* 1910, pp. 177 ff.

<sup>10</sup> *Altar des Herakles und des Heiligtums von Olympia*, p. 481.

<sup>11</sup> Cf. *Eph. Arq.* 1895, Pl. IX, 1-4 with *Excavations at Phylakopi*, Pls. VII, 1, VIII, 4-6.

published, full details are wanting, and nothing is really certain as to the exact stratification. At the Aphaia<sup>1</sup> temple not much prehistoric ware was found, and nearly all belongs to the third Late Minoan period. Prehistoric ware is also said to have been found on the settlement on the Oros, but no details of this are yet to hand.

*Megaris.* At Nisaia and Minoa<sup>2</sup> Mycenean (L.M. III), Mattmalerei and Minyan ware have been found, but there was apparently no stratification.

*Argolis.* At Argos<sup>3</sup> itself Vollgraff has found a prehistoric settlement on the Aspis. The pottery of this settlement is divided by the excavator into five groups, but there are only two classes<sup>4</sup> which concern us here. The first class is Minyan ware, which in colour and the shapes of the vases differs from the Orchomenos-Lianokladhi style, but in technique is closely related. In both the apparent imitation of metallic forms is common, goblets with high ringed feet occur in both, and in both the careful fabric is a marked feature. The Argive variety, which for the sake of clearness we may call Argive-Minyan, has a black polished surface, a harder biscuit, and is often decorated with incised lines. The shapes are (a) cups with two high handles projecting above the rim, (b) open bowls with two small ribbon handles placed just under the rim, a ribbed neck, and as a rule incised decoration on the body below, (c) goblets with a high ringed foot. A comparison<sup>5</sup> of the illustrations shows the difference between the Argive and the Orchomenos ringed feet. The first two shapes are common at Argos, but of the last only one example was found. The other ware is of the Mattmalerei type with designs in matt black on a greenish yellow surface. The principal shapes are, (a) pithoi, which closely resemble those from Aegina, and seem to be a developed form of a type common in Melos in Early Cycladic III<sup>6</sup>, (b) flat, open bowls, again a type common in Melos from Middle Cycladic onwards<sup>7</sup>, (c) cups splaying out towards the top, and with patterns on the bottom, another type recalling Late Cycladic ware from Melos<sup>8</sup>. The other finds are of minor importance. But one fact is of great value, that all the different kinds of pottery were found together in one and the same well-defined stratum, so that Mattmalerei is here contemporary with Argive-Minyan. At the foot of the Aspis several chamber tombs were found which belong to the second and third Late Minoan periods.

*Argive Heraeum.* The excavators found no stratification at this important site. Amongst the pottery<sup>9</sup> there are several pieces of black and incised ware of a primitive appearance, but of the incised ware some seems either from the shapes or the colour of the clay (yellow) not to be primitive at all, but to belong to a class of ware contemporaneous with Proto-Corinthian pottery<sup>10</sup>. Of other prehistoric wares, Mattmalerei and L.M. II and III all occur.

<sup>1</sup> Furtwängler, *Aegina*, pp. 424 ff.

<sup>2</sup> *Ath. Mitt.* 1904, p. 95.

<sup>3</sup> *B. C. H.* 1904, pp. 364 ff., 1906, pp. 8 ff.

<sup>4</sup> His classes are, I Monochrome, unpolished, hand-made ware, II Minyan, black; III Minyan, grey, IV polished, hand-made ware, V Mattmalerei, VI Incised ware. According to their prevalence they can be arranged thus: I, V, II, III, VI, IV. Under Minyan we include his classes II and III.

<sup>5</sup> Cf. Schliemann, *Mycenae*, Fig. 239 with II S. A. XIV, p. 212, Fig. 13 a-e, which is our Fig.

<sup>6</sup> Cf. 'Ep. Arg. 1893, Pl. 16, 1-4; *Excavations at Phylakopi*, Pl. VII, 1, VIII, 4-6.

<sup>7</sup> *Excavations at Phylakopi*, Pl. XXXIII.

<sup>8</sup> Cf. *Excavations at Phylakopi*, Pl. XXVI-XXIX.

<sup>9</sup> Waldstein, *Argive Heraeum* II, pp. 69 ff.

<sup>10</sup> e.g. Waldstein, *op. cit.* II, p. 70, nos. 16-21; cf. Furtwängler, *Aegina*, p. 446; Hitler von Gaertingen, *Thera* II, pp. 196 ff.

*Mycenae.* The well-known finds of Schliemann and Tsundas<sup>1</sup> have been so well and so often described elsewhere that there is no need for us to enter into any details. It is only necessary to note one or two points. In and about the shaft graves, which, from the objects found in them, belong mainly to the first and second Late Minoan periods, Schliemann found several specimens of Mattmalerei with black designs on a greenish-yellow ground<sup>2</sup>, and also the foot of a goblet with a ringed stem of the Argive-Minyan style<sup>3</sup>. Of the so-called Kamares ware found in the same context only one sherd seems to belong to M.M. III<sup>4</sup>, for the others<sup>5</sup> seem to be imitations of Cretan ware, and so probably of later date. Amongst the pottery found elsewhere at Mycenae Mattmalerei is fairly common, as well as the Argive-Minyan ware.

*Tiryns.* Though the stratification at this site was much disturbed by the building of the later palace, yet the recent German excavations have done much to throw light on the early history of the site<sup>6</sup>. The lowest strata have produced a great quantity of pottery which the excavators call Urfern. They consider it to be allied to Early Cycladic ware, and to be akin to, but not the same as the Urfern ware of Orchomenos II and Lianokiadhi II. The askos is a common shape. Above this a few cist tombs were discovered and some pottery of the Argive-Minyan style. The upper strata, to judge by the pottery found, belong principally to the third Late Minoan age, though L.M. II ware is common. The earliest Minoan vases here consist of two pieces of M.M. III ware found by Schliemann<sup>7</sup>. The full study of the pottery will throw still more light on the early periods of this citadel.

*Nauplia.* The necropolis explored here yielded vases and other objects of the third Late Minoan period<sup>8</sup>.

In addition, Mycenean ware has been found at other sites in the Argolid such as Midea, Asine, and Epidaurus<sup>9</sup>, and Dr Kurt Müller informs us that Urfern ware has been found at Mili (Μύλοι), Lerna and Asine.

*Corinth.* In 1896 the American School<sup>10</sup> found two prehistoric graves near the temple of Apollo. The graves showed no traces of cremation, and from their size it seems that the bodies were buried in a contracted attitude. The actual graves were in the form of rough chambers opening off a shaft. The vases are unpainted, nearly all hand-made, and with two exceptions, which are incised, quite undecorated. The prominent shape is a kind of beaked jug, and the clay as a rule is a greenish yellow. In fact they appear to be connected with the Mattmalerei style, of which they may well be the forerunners. But as this is an isolated find it cannot, till fresh discoveries are made in this region, be put in its right context.

*Arcadia.* At Tegea<sup>11</sup> a few fragments of L.M. III vases have been

<sup>1</sup> See Schliemann, *Mycenae*; Schuchhardt, *Schliemann's Excavations*; Tsountas-Mann, *Mycenae Age*.

<sup>2</sup> Schliemann, *Mycenae*, pp. 146, 162, 163; Furtwängler-Loeschke, *Myk. Thongefässer*, Pls. 1, 6, 18, 13, 16, 17.

<sup>3</sup> Schliemann, *Mycenae*, p. 154, Fig. 230.

<sup>4</sup> Furtwängler-Loeschke, *Myk. Thongefässer*, Pl. 21, 34, cf. Flüggen, *Z. d. Dauer d. Kreislich-Mykensischen Kultur*, p. 36.

<sup>5</sup> Furtwängler-Loeschke, *op. cit.* Pl. 21, VII. 42.

<sup>6</sup> See Schliemann, *Tiryns*; *Arch. Anz.* 1908, p. 127, 1909, p. 122, *Ath. Mitt.* 1911, pp. 198 ff.

<sup>7</sup> Schliemann, *Tiryns*, Pls. 26 d, 27 d.

<sup>8</sup> *Ath. Mitt.* 1880, pp. 143 ff.; *Homerika* 1892, pp. 52 ff.

<sup>9</sup> For these and other sites see *Aeolus* 1888, pp. 153 ff., 1889, pp. 163 ff.; *Frazer, Pausanias* III, pp. 251, 293.

<sup>10</sup> *Am. Journ. Arch.* 1897, pp. 313 ff.

<sup>11</sup> *W. C. H.* 1901, p. 256.

found in the French excavations at the site of the temple of Athena Alea.

*Laconia.* Vase fragments of the second and third Late Minoan periods have been found at the Menelaion, the Amyklaion<sup>1</sup> and in tholos tombs at Vaphiό (Βαφιό), Arkina (Αρκίνα) and Kámbos<sup>2</sup> (Κάμπος). The only examples of earlier wares found are those from Yeráki (Γεράκι)<sup>3</sup>, which include blackish monochrome hand-made ware and fragments of Mattmalerei. With the latter were also found obsidian and bronze.

Finally, before we proceed to sum up the results of our examination of the prehistoric finds in Southern Greece there are five stone statuettes that must be mentioned. Three of these are the well-known statuettes reported to have been found at Sparta<sup>4</sup> with two small stone vases. As pointed out by Tsundas these are clearly of the mainland and not of the island type. The legs are short and stumpy, the heads are round, and the steatopygus is most marked. The other two are said to be from Attica, one is of Pentelic marble<sup>5</sup>, and is very similar to the Sparta statuettes, the other<sup>6</sup> is also of marble, and is of the same type as one of the Sparta figures. The provenance of these figures is so doubtful that it is hard to know to what context to assign them. But it is by no means impossible that statuettes of the Thessalian type should be found in the south, for as we have seen from the Melian obsidian found in the north trade relations existed between the north and south from very early times.

We thus see that on the mainland in the south not much pottery that is earlier than L.M. I has been found, and that, when earlier remains have been found, as for instance at Tiryns, Yeraki, and Aegina, they have no resemblance to the Thessalian wares. The only connection between the north and south before the first Late Minoan period is given by the Urniris ware from Tiryns, Orchomenos and Lianokladhi. But at Tiryns the Urniris stratum is thick, and rests on virgin soil, so that there nothing earlier than it is yet known. But at Orchomenos and Lianokladhi the Urniris strata overlie earlier strata containing red on white ware (A3B). It seems probable that the Urniris ware in Orchomenos II and Lianokladhi II begins later than the corresponding ware at Tiryns.

The only other clear connection between south and north—apart from Minoan or Mycenean fabrics—is that given by the Minyan and Mattmalerei wares, the significance of which is discussed below. But it is to be noted that just as there is a difference between the Orchomenos and Tirynthian Urniris ware, so also is there between the Argive Minyan and that from Orchomenos and Lianokladhi. Further it is remarkable that the Minyan ware found in Thessaly is without exception of the Orchomenos variety. Therefore, except for the Creto-Mycenean wares (L.M. II and III) there seems to be hardly any direct connection between Thessaly and the south-east regions of the mainland at all.

<sup>1</sup> *Sparta Mus. Cat.* p. 245, no. 798; *B. S. A.* xv, p. 113, XVI, pp. 42, 7. *J. H. S.* 1910, p. 359.

<sup>2</sup> *Eph. Arch.* 1889, pp. 131 ff., *Письма* 1910, p. 276.

<sup>3</sup> *B. S. A.* xl, pp. 96, 98, XVI, pp. 72 ff.

<sup>4</sup> *Wolters, Ath. Mus.* 1891, pp. 35 ff.; *A. Z.*

p. 384.

w. & t.

<sup>5</sup> *Myres, Journ. Anthropol. Inst.* 1900, p. 253.

<sup>6</sup> In a Roman collection shown in the Fitzwilliam Museum at Cambridge. Cf. another steatopygous figure of stone from Aegina, which seems to belong to the same class, *Arch. Anz.* 1910, p. 47, Fig. 1.

*Crete and the Cyclades.* The excavations in Crete, Melos and elsewhere have given us a clear idea of the history of these regions in early times. The point to note is that down to the end of the Late Minoan and Late Cycladic periods the development of the civilisation of the islands is unbroken. The pottery sequences at Cnossus and Phylakopi are practically decisive on this point. It is also clear that the so-called Mycenaean (Late Minoan I, II and III) pottery has a long ancestry in Crete. Therefore, since on the mainland the pottery sequence that leads up to the so-called Mycenaean style is lacking, we are justified in believing it to be derived from Crete. Further, as has been already noted, before the first Late Minoan period there is hardly any evidence of close contact between the mainland and Crete, though there is between Crete and other islands<sup>1</sup>. From that period onwards Cretan culture seems to have colonised portions of the mainland, and soon after, in the second Late Minoan age, southern culture first touched Thessaly. Minyan ware, both of the Argive and of the Orchomenos type, has been found in the third city at Phylakopi. Mr Ormerod tells us that there is some with the Cycladic sherds in the Museum at Paros. But beyond the connections shown by Late Minoan and Minyan wares, there seems to have been little if any contact between the islands and Thessaly. Minoan obsidian is found on all the Thessalian sites even in the earliest strata. But if the obsidian was brought by sea, it is remarkable that nothing definitely Cycladic was found in sites so near the sea as Sesklo, Dhimini or Phthiotic Thebes. Other sites by the sea still remain unexplored, but to judge by the evidence before us, it hardly seems likely that they will prove very rich in Early Cycladic objects. Can we then assume that the obsidian in Thessaly came by an overland route by way of the Cycladic settlement at Chalcis and the outposts of North Greek culture at Orchomenos? Thus as it seems to have brought nothing with it, the trade in obsidian must be considered as a thing apart. It might be thought that some of the Thessalian stone figurines resemble the Cycladic. But as we have seen above<sup>2</sup> none, with the possible exception of the head from Topuslar<sup>3</sup>, at all resemble the Cycladic anthropomorphic figures. As to the fiddle-shaped figures the difference is even more striking. The Thessalian examples<sup>4</sup> from Dhimini and Sesklo are not at all like the Cycladic type, with the exception of two<sup>5</sup>, and even these have no marked Cycladic characteristics. Apparently the only Early Cycladic object from Thessaly is the gem from Zerella, which was unfortunately only a surface find. All the southern pottery found in Thessaly is Matimaterei, Minyan or Late Minoan, and the Urfirnis sherds from Tsani like those from Lianokladhi II, which differing from the Tirynthian are more like those in Orchomenos II, show no Cycladic connection themselves. Thus we may conclude that as far as the present evidence goes, the Cyclades exercised little or no influence on prehistoric Thessaly.

As to Crete and Mycenaean South Greece the case is different, for we have seen above that while L.M. II ware is rare in Thessaly, L.M. III ware

<sup>1</sup> Thera, Flimno, Zeit. u. Dauer d. Kretisch-Mycenischen Kultur, p. 36; Hiller von Gaertringen, Thera III, pp. 41 ff.; Melos, *Excavations at Phylakopi*, pp. 252 ff.

<sup>2</sup> p. 56.  
<sup>3</sup> See Chapter IV.  
<sup>4</sup> 2-2, Pl. 37, 3, 10; cf. 'Εφ. Αρχ. 1898, Pl. 10, 11.

is common in small quantities. By this we mean that a little L.M. III ware has been found at a good many sites. Therefore it appears that the Minoan culture reached Thessaly in the second Late Minoan period, but did not become common there till the third. Even then Minoan pottery did not displace the existing local wares, but continued in use by the side of them. Thus if there was a Mycenean occupation of Thessaly, it was not a permanent settlement in force with large bodies of colonists; but an occupation by means of trading factories established here and there, and by detachments quartered in various centres. If we are right in our theory as to the development of the latest local painted ware ( $\Delta 1a$ ), the effect of this occupation can be seen in a local, hybrid style of pottery. But it cannot have lasted long, for not much has yet been found of this hybrid style ( $\Delta 1a$ ) or of L.M. III ware. Then followed the great mysterious catastrophe that caused the abandonment of the prehistoric sites in Thessaly and overthrew the power of the Mycenean civilisation in Greece.

## CHAPTER XIII

### CONNECTIONS WITH THE WEST

At present very little is known about the prehistoric remains of Western Greece, and Epirus is unexplored, so that it is not to be expected that there is much connection to be traced between this region and Thessaly. Our own travels in Epirus and Aetolia have shown us that mounds like those of Thessaly are not to be found in the west. Apart from the excavations of Doerpfeld and Sotiriadhis little is known of the early remains of the west of Greece.

*Pylos* (Kakóvatos, Kakóbaros). Here Doerpfeld<sup>1</sup> has excavated three tholos tombs, which fall in the second Late Minoan period. On the hill above them remains of buildings have been discovered, and amongst them have been found many fragments of monochrome incised, and plain pottery, reddish, grey and black. These are shown to be approximately contemporary with the tombs, for amongst them are six Mycenean sherds like those in the tombs.

*Arene* (Samikó, Σαμικό). Here<sup>2</sup> Doerpfeld has found remains of walls and pottery similar to those from Pylos, including a few Mycenean sherds.

*Pisa*. At the supposed site of this town<sup>3</sup>, which lies a little to the east of Olympia, the same excavator has found remains of houses and pottery similar to those from Pylos.

*Olympia*. Here Doerpfeld's excavations have shown that beneath the remains of classical Olympia lie the ruins of a prehistoric settlement<sup>4</sup>. Many houses have been found, one of which was discovered in the original excavations, and thought to be the remains of the great altar of Zeus<sup>5</sup>. These houses are of the so-called oval or elliptical type - they are oblong in shape, and have one rectangular and one curved end. In and about them prehistoric pottery is plentiful. This is monochrome, hand-made, polished ware, and is often incised. Typical are small cups of grey clay with two handles rising above the rim, and with spirals incised below them. There are several examples of brown polished jugs with incisions. Painted ware is rare: this has reddish clay, a cream slip, and geometric patterns in matt black. There is one sherd of this style from Arene. With these pots, which though similar, do not closely resemble those from Pylos, were found a few celts including bored examples like our Type E.

*Leukas*. In this island, which he believes to be the Homeric Ithaca, Doerpfeld has excavated two sites<sup>6</sup>. At Khirosplíá (Χιροσπλήσια) a cave in the south of the island he has found a rich neolithic deposit including a good deal

<sup>1</sup> *Ath. Mitt.* 1907, p. xv, 1908, pp. 195 ff., 1909,

pp. 263 ff.

<sup>2</sup> *Arch. Anz.* 1909, p. 120.

<sup>3</sup> *Arch. Anz.* 1909, p. 121.

<sup>4</sup> *Ath. Mitt.* 1906, p. 205, 1907, p. v, 1911,

pp. 163 ff.; *Ariad. Ant.* 1908, p. 121.

<sup>5</sup> Balio, *Orchomenos I*, p. 48.

<sup>6</sup> See Doerpfeld, *Briefe aus Leukas-Ithaka I-V*.

of painted pottery. This is well polished, and has a reddish biscuit : over the biscuit is a creamy slip on which are geometric patterns in red-brown. The vases are painted inside and out. In appearance the ware distantly recalls A3β Thessalian pottery, and in designs B3α. Also it has some likeness to the neolithic pottery from Matera in Apulia<sup>1</sup>. A few sherds have a herring-bone pattern in white on a black ground, and there are also monochromic sherds. By the bay of Nidhri (Νιδρή) on the east coast traces of an extensive settlement have been found. On the hill side behind the plain that borders the bay, remains of elliptical houses have been cleared and in the plain itself many tombs have been opened. These are rectangular graves in a circle paved with stones, and probably once covered by a tumulus. The bodies were burnt and placed with vases and other objects in large pithoi. All round the grave, and scattered over the stone circle was a layer of ash which contained bronze knives, etc. Amongst these grave circles, and sometimes let into them, are cist tombs of slabs, which seem to be later in date. One such circular inclosure was found which contained twelve cist graves, and a place thought to be an *astrinum*. Another rectangular enclosure contained nine cist tombs. The vases from the tombs are all monochrome, and include several ordinary prehistoric types, but have no close resemblance to any known kind of ware. Amongst the bronzes is a spear head like that from the fourth shaft grave at Mycenae, and Tomb 56 at Sesklo. Other finds include two necklaces of gold beads, and flint arrow heads of the barbed type. All about the plain at a low level remains of human habitation have been found, and amongst them many potsherds. The typical ware is of very soft, buff clay with a polished red slip : of this ware which is sometimes incised, a few sherds have been found at Olympia. Other miscellaneous sherds include one Minyan and two or three L.M. III pieces.

*Kephallenia.* In this island the Greek Archaeological Society has explored a late Mycenean (L.M. III) cemetery, of rock cut chamber tombs<sup>2</sup>. In these local monochrome ware was found as well as ordinary Mycenean vases.

*Aetolia.* At Koronta Sotiriadhis has found some L.M. III graves<sup>3</sup>. At Stratos he has found in a tumulus near the Achelous a quantity of prehistoric pottery which closely resembles the soft, red-surfaced ware from Leukas.

*Aetolia.* At Thermos Sotiriadhis has found by the temple of Apollo, and at a lower level than the archaic temple, two large prehistoric apsidal houses<sup>4</sup>. These as usual have one short end rectangular, and the other curved. In them much of the pottery found is like the ware from Stratos, and resembles the Leukas ware mentioned above.

These finds in the west can apparently be divided into two groups, an early or neolithic group, and a late or bronze age group. To the neolithic group belong only the painted sherds from Khirospilia in Leukas. They, as has been shown, have some slight likeness to the Thessalian neolithic wares, but no sufficiently strong resemblance to enable us to decide definitely that

<sup>1</sup> Cf. Peet, *Stone and Bronze Ages in Italy*, p. 108, Fig. 36; *Liverpool Annals* 1929, p. 85, Fig. 16.

<sup>2</sup> *Arch. Anz.* 1909, p. 108; Kavvadinos, *Comptes*

*Rendus de l'Acad. d. Insr. et Belles Lettres*, 1909, pp. 382 ff., 1911, pp. 6 ff.

<sup>3</sup> Παναγία 1908, p. 100.

<sup>4</sup> Παναγία 1908, pp. 95 ff.

they belong to the First or to the Second Thessalian Period. Also, as we have indicated, they show some likeness to the neolithic wares in Apulia, which, as Peet has pointed out, have also some likeness to the Thessalian<sup>1</sup>. These Apulian wares have no resemblance to any other early Italian fabrics, so that there is some probability that they are importations from the eastern side of the Adriatic. Their patterns have a general, but not a specific, resemblance to both the Leukas and the Thessalian wares. Therefore it would be perfectly allowable to regard them all as branches of the same family, and thus as distantly connected with the great Danubian group of early wares<sup>2</sup>. But these are speculations which have as yet no actual basis, and they have little value in archaeology till either Epirus or Albania has produced kindred wares that occupy a middle position between the Thessalian pottery and the Leukas and Apulian fabrics. The whole question is one of the greatest importance, but it is premature to discuss it now since there is little or no evidence forthcoming for the moment.

The bronze age group includes the Aetolian and Acarnanian pottery, the ware from Nidhri in Leukas, and the sherds from Olympia, Pylos, and the other sites in that corner of the Peloponnesus. In the Peloponnesus these wares occur with L.M. II and III sherds<sup>3</sup>, and in Leukas with L.M. III and Minyan wares. Therefore it may be assumed that they are contemporary with L.M. II and III pottery. This is confirmed by the evidence of the spear head mentioned, for the similar example from Mycenae is of L.M. II or earlier date, and that from Sesklo was found with Minyan ware, which, as we shall see below, is as far as we can tell at present to be assigned to the second Late Minoan period, though it probably overlapped both into L.M. I and L.M. III. Thus the later or bronze age group of wares belongs to the latter part of the Fourth Thessalian period, and the presence of bored celts of Type E does not go against this. The objects that enable us to compare these western finds with the Thessalian are in neither case native to either of the districts concerned. Consequently we must imagine that both were local cultures in, as seems obvious, a backward state, which were not, as far as we can see, in direct communication with one another, but were simultaneously influenced by the same great outside force. This external power must have been in both cases the Creto-Mycenean culture spreading northwards by coastwise routes.

<sup>1</sup> Peet, *B. S. A.* xiii, pp. 416 ff.; *id.*, *Stone and Bronze Ages in Italy*, pp. 85, 103, 217, 287, 415, 418; *Liverpool Annual* 1909, pp. 72 ff., 1910, pp. 415 ff.; *Mosso, Mem. Antichi*, 1909, pp. 305 ff.

1910, pp. 237 ff.; Mayer, *Stazioni preistoriche di Malfetta*.

<sup>2</sup> See below, pp. 232, 257.

<sup>3</sup> In Kephallenia too local wares were found with L.M. III pottery.

## CHAPTER XIV

### CONNECTIONS WITH THE NORTH

CONNECTIONS with the north fall into two classes, particular points of contact, such as the occurrence on North Greek sites of sherds or vases almost, if not quite, identical in shape or technique with specimens from further north, and general points of similarity between certain northern cultures and the early finds from Thessaly, which are thereby differentiated from contemporary remains in the Aegean area.

It is convenient to take the particular points of contact first. Four monochrome vase lids ( $\Gamma_3\alpha$ ) from Dhimini are compared by Tsundas to somewhat similar types from Troy I<sup>1</sup>. A fifth has since been found in Tsani IV. The similarity in shape may be admitted, but since this type also occurs in Troy II-V<sup>2</sup>, and the fabric differs, Tsundas' chronological inference is not valid.

In the relief ornamentation, which is not uncommon in the  $\Gamma_3$  wares, Tsundas again sees connections with Troy<sup>3</sup>, and this theory is considerably strengthened by the more recent evidence from Rakhmani, where spirals in relief are found in close connection with the horn-shaped lugs. The connection however is slight and consists only in similarity of decoration, for in all other respects the Trojan vases are unlike the Thessalian. Similar plastic ornamentation, including spirals, has been found in Macedonia<sup>4</sup> and it may prove a connecting link between North Greece and Troy. There is however no evidence as yet for the shapes of these Macedonian vases. A very similar question is raised by the raking handles ( $\Gamma_3\beta$ ) found in Northern Greece, which likewise have analogies with handles from the same two localities<sup>5</sup>. In North Greece it has occurred at the following sites: Marmariani, Sesko, Lianokladhi and Zerelia.

A small clay cup from Dhimini, as Tsundas points out, is almost identical with one from Troy<sup>6</sup>, but it is very doubtful if any weight at all can be attached to this parallel. Tsundas also finds a resemblance between a type of open bowl from North Greece and a somewhat analogous shape at Troy<sup>7</sup>, but the connection seems to be vague. There is however at Troy in settlements VI and VII a considerable quantity of Minyan ware<sup>8</sup>, some of which seems to be imported and some from its fabric to be local. The occurrence of this ware in Thessaly and at Troy is important; it does not however prove any direct

<sup>1</sup> Δ-2, p. 274, Fig. 199, and p. 264, Fig. 294, cf. H. Schmidt, *Schliemann Samml.*, nos. 188-195.

<sup>2</sup> H. Schmidt, *op. cit.*, nos. 2986-2988.

<sup>3</sup> Δ-2, pp. 262ff.

<sup>4</sup> H. Schmidt, *Zeit. f. Ethnol.* 1905, pp. 96ff.

<sup>5</sup> Δ-2, pp. 271ff., Figs. 189-196; H. Schmidt, *op. cit.*, p. 98, Figs. 6ff.

<sup>6</sup> Δ-2, p. 276, Fig. 204; cf. Schmidt, *Schliemann Samml.*, no. 285; the Dhimini example is of Troy ware, which does not occur at Troy, see p. 77.

<sup>7</sup> Δ-2, p. 276, Fig. 210, and p. 370, Fig. 298.

<sup>8</sup> Schmidt, *Schliemann Samml.*, nos. 3241, 3088.

communication between the two places, but only that both were in touch with Orchomenos. Nevertheless, as Thessaly is almost on the way from Orchomenos to the Troad, direct communication may be inferred.

The distribution of the various styles of *Tia* ware leads us to a somewhat similar region. Tsundas<sup>1</sup> compares *Tia* to the three or four Trojan sherds which also have white paint. The comparison, which was made when very little of *Tia* was known, is extremely doubtful. With the other two styles we are on firmer ground; *Tia*2, or a closely allied ware, has been found at Besika Tepe<sup>3</sup>, Boz-eyuk<sup>4</sup>, Vinča<sup>5</sup>, and also in Bulgaria<sup>6</sup>, and *Tia*3 has the same distribution. In both cases the sherds from Vinča seem nearest to the Thessalian and are probably identical, the Boz-eyuk example of *Tia*2 on the other hand, though apparently similar in technique, is not Thessalian in shape. The shapes of both styles are however very doubtful. Some sherds which seem identical with crusted ware *Tiy* have been found at Vinča<sup>7</sup>, there are also similar examples from Palt in Lower Austria<sup>8</sup>, and some too from Galicia<sup>9</sup> which seem analogous. All these have red paint on a dark ground.

The original home of this ware has yet to be found; it may well be in the Northern Balkans though there is always a possibility of its proving to be in Macedonia. From Macedonia itself there is one certain importation in a single sherd of red rugose ware<sup>10</sup> now in the National Museum, Athens; it came from Thessaly, but its exact provenance is unknown.

Tsundas' suggested connection<sup>11</sup> between the Thessalian and Bosnian incised wares has not been confirmed by subsequent finds, but the connection with Thrace<sup>12</sup>, which he also suggests, is highly probable, for in both places a combination of spiral and geometric motives is found.

Turning to connections of a more general kind there are several points, which show that Northern Greece goes with the north rather than the south. The steatopygous nature of the figurines which is particularly marked in the First Period separates it from the Aegean, where steatopygy is rare and never so developed<sup>13</sup>; and at the same time separates it from Troy, where flat, fiddle-shaped types predominate. The nearest parallel in this respect to Northern Greece seems to be Thrace<sup>14</sup>. The ithyphallic figurines likewise suggest the north rather than the south; but the strongest connection of all is to be found in the decorative motives of the Dhimini ware, which unite Thessaly to the groups of similar painted wares found in Thrace, Roumania, Galicia, Bessarabia, and Southern Russia<sup>15</sup>. The combination of spiral and geometric patterns is an underlying feature of all these various wares, which are thus sharply differentiated from the Aegean civilisation.

Putting together the above evidence we see that North Greece in a general sense connects with a group of early cultures that exist in Thrace, and

<sup>1</sup> *A-Z*, p. 252. The chronological objection to this comparison is discussed on p. 258.

<sup>2</sup> Doerpfeld, *Troya und Ilion*, p. 526.

<sup>3</sup> *Ath. Mitt.* 1899, p. 25, cf. Pl. III, 17.

<sup>4</sup> Vassits, *Prähistorische Zeitschrift* II, pp. 39 ff.

<sup>5</sup> Vassits, *op. cit.*, p. 36.

<sup>6</sup> Vassits, *op. cit.*, pp. 29 ff.

<sup>7</sup> Now in the prehistoric collection at Vienna.

<sup>8</sup> A few examples in the Ashmolean Museum, Oxford.

<sup>9</sup> *Liverpool Annals*, 1909, p. 162.

<sup>10</sup> *A-Z*, pp. 221 ff.

<sup>11</sup> B. C. H. 1906, pp. 364 ff.

<sup>12</sup> Many of the Aegean steatopygous figurines seem to be merely squatting.

<sup>13</sup> Cf. Beazley, *Urgeardische*, Pt. III; the likeness rests mainly on the steatopygy.

<sup>14</sup> See Burrows, *Differences in Crete*, Chapter XI; *Class. Review*, 1908, pp. 233 ff., and in particular Appendix I below.

in the plains further north<sup>1</sup>, and are noticeable for their early painted pottery, and in a particular sense with certain other northern cultures, which in their use of incised pottery and in other respects<sup>2</sup> are very different as a whole from anything in Greece itself. In the one case there is a general underlying connection, in the other merely points of contact.

A point, which is here of interest, is that at a time, when bronze was commonly in use both in the Aegean and at Troy and Vinča, Thessaly, which lies between the two, was still in a neolithic or subneolithic age. There seem in fact to have been two early bronze-using areas, one in the south centring round Crete, and another in the north extending westwards from Troy through Servia into Europe, and also almost certainly eastwards from Troy into Anatolia. Troy from its very position was clearly on a trade route leading across into Europe, and may possibly have even procured copper from Servia, but apart from the early use of metal there is evidence for such a trade route in the connections to be found between the Servian and Trojan pottery<sup>3</sup>; and between Troy and Hungary there are also signs of intercourse<sup>4</sup>. The distribution of *Tia* wares along this route is interesting and makes it possible that Thessaly first acquired metal from the north. The bronze objects as yet found in Northern Greece are insufficient to decide this point, the spear head from Sesklo<sup>5</sup>, which resembles others from Leukas and Mycenae, is not of a typical southern form. The bronze axes also from Sesklo<sup>6</sup> in section are not exactly Cycladic; they may however be a local type, for they approximate very closely in shape to the stone celts. On the other hand two stone axes<sup>7</sup> from Sesklo and Zerelia seem to be of a Mid-European type, and possibly imitate metal.

Lastly we may consider briefly two rival theories concerning the connection between the early civilisations of the Aegean basin and the Danube valley. Hubert Schmidt who is supported by von Stern derives the Aegean cultures from those of central Europe. A precisely opposite view is held by Wosinsky and Vassits, who derive the Central European cultures from the Aegean<sup>8</sup>. For both theories Thessaly is obviously a most important district, and the manner in which the early North Greek cultures are differentiated from those in the south, and the peculiar character of their connections with the north, which seem to imply a racial connection with the neolithic painted wares of Thrace<sup>9</sup> and beyond, and a trade connection with the Servian incised group, tells alike against both the above theories. There are however a few other objections of a more general character which may suitably be summarised here. In the first place, there is a strong *a priori* improbability against any one culture ever spreading throughout the whole of the Balkan peninsula either from south to north, or north to south. The existence of a uniform civilisation in the Southern Aegean, radiating from Crete, and spreading thence to the

<sup>1</sup> A connexion between Thessaly and Anatolia as hinted by Hall, *Proc. Soc. Biblical Arch.* 1909, pp. 312 ff., seems most unlikely.

<sup>2</sup> It may here be noted that, as we previously suggested, the obsidian from Vinča proves not to be Melian. *Classical Review*, 1908, p. 230.

<sup>3</sup> Vassits, *op. cit.* pp. 52 ff.

<sup>4</sup> Schmidt, *Zeitschrift f. Ethnol.* 1904, pp. 608 ff.

<sup>5</sup> Δ-2, pp. 124, 354; see pp. 68, 229.

<sup>6</sup> Δ-2, pp. 351 ff.

<sup>7</sup> See pp. 71, 114.

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<sup>8</sup> We have discussed these theories elsewhere, *Class. Review* 1908, pp. 233 ff., 1909, pp. 209 ff.

<sup>9</sup> The connexion with Thrace is based on general similitudes. No definitely imported Thracian sheril has been yet observed. A wheel-maintain vase in the sixth shaft grave at Mycenae however resembles in some respects the pottery of South Russia, Furtwängler-Löschcke, *Alte Thongefässer*, Pl. VIII. Dr Evans kindly drew our attention to this vase.

mainland of Greece is on the other hand in every way natural. The existence of another such uniform culture on both sides of the Adriatic is far from improbable<sup>1</sup>, for in both cases alike the sea is the medium for communications. But as soon as we have to deal with an area in which communications are mainly by land, and with a country broken up by mountain ranges which were almost certainly covered with forests and intersected by innumerable streams, forming, in spring and winter at least, formidable barriers, the probabilities of any uniform and extensive civilisation are extremely remote.

At no historic period moreover have the Balkans been permeated by one civilisation: Hellenism even at the time of the Macedonian conquest never in any real sense penetrated the interior, at no period was the Greek language universal, and to-day this area is a conglomeration of diverse states and nationalities, speaking different languages, and possessing different customs and ideals.

From what we know of the prehistoric age this seems to have been also the case then. Thus we are inclined to favour the theory of the parallel development of various cultures, related no doubt to each other, but still differing greatly among themselves, rather than any theory which advocates a single origin, whether in the north or south, for the early civilisations of the Balkan area<sup>2</sup>.

<sup>1</sup> See above, pp. 229 ff.

<sup>2</sup> Cf. Appendix I, pp. 257 ff.

## CHAPTER XV

### CHRONOLOGY

IT is clear after the brief review of the connections that can be traced between prehistoric Thessaly and the adjacent regions, given in the last three chapters, that any chronological system for North Greece must be based on the wares imported from the south. Thus the true fixed point for chronological purposes lies in the Late Minoan III sherds found in Thessaly<sup>1</sup>, for it is not known if local wares were found with the L.M. II vases<sup>2</sup>. But it is perhaps legitimate to regard Orchomenos, which finally became a Mycenean city, for chronological purposes as a southern site. There below the fourth stratum, which contained L.M. III pottery, was a stratum of Minyan ware, in which Mattmalerei also occurred. This stratum is dated by Bulle<sup>3</sup> as contemporaneous with the shaft graves at Mycenae, which fall in L.M. I and II, that is to say according to Evans' dating between 1600 and 1350 B.C.<sup>4</sup> On the other hand in Thessaly, wherever Minyan has been found with any Mycenean ware, it usually appears as in Zerelia VIII<sup>5</sup> and Tsani VIII<sup>6</sup>, together with L.M. III ware. It also seems to occur, as far as our present knowledge goes, with L.M. III at one of the prehistoric sites by Dhrakhman<sup>7</sup> and at Troy<sup>8</sup>. At Eleusis it was found both with L.M. III and Mattmalerei<sup>9</sup>. On the above evidence it seems that the earliest probable date for Minyan ware is about the beginning of the L.M. I period, and its lowest limit is about half way through the L.M. III period. Minyan ware was found with Mattmalerei at Argos, at Aegina, and in and about the shaft graves at Mycenae<sup>10</sup>. Consequently the latter ware may be said to have the same general date as Minyan fabrics, but till the full publication of the excavations at Tiryns, Aegina and Orchomenos the period of both wares, especially Mattmalerei, must remain indeterminable. Further, both these fabrics seem to belong to the mainland, though Mattmalerei may be said to be akin to Melian wares, and are parallel to, and not part of, the sequence of Minoan (Mycenean) wares. Finally we may note that Minyan ware seems more at home near Orchomenos, and Mattmalerei more at home in the neighbourhood of the Argolid.

<sup>1</sup> p. 257 ff.

<sup>2</sup> p. 266 ff.

<sup>3</sup> *Orchomenos I*, p. 55.

<sup>4</sup> Huver, *Crete, the Forerunner of Greece*, p. 18.

<sup>5</sup> p. 139.

<sup>6</sup> p. 145.

<sup>7</sup> p. 204.

<sup>8</sup> p. 237.

<sup>9</sup> p. 222.

<sup>10</sup> See Chapter XII. In the recent excavations (1911) at Phylakopi Minyan ware occurred mainly with M.M. II pottery. Some also was found together with L.M. II ware. The first appearance of Minyan ware at Orchomenos may therefore be in M.M. II, but this would not necessarily alter the date of its appearance in Thessaly.

The only earlier point of contact between Thessaly and the south that can be used for chronological purposes is that shown by the *Urfirnis* ware at Tsani, Lianokladhi and Orchomenos. But it is at present impossible to date this in terms of the Minoan system, for the finds from Tiryns and Orchomenos are not yet published. As the *Urfirnis* stratum at Orchomenos<sup>1</sup> underlies the Minyan it must be older, and if the beginning of the Minyan stratum cannot be placed earlier than the beginning of the first Late Minoan period, then the *Urfirnis* stratum must have ended about that same time. At Tiryns<sup>2</sup> the *Urfirnis* stratum is very thick, and rests on virgin soil, therefore it not only has a long history at that site, but is the earliest ware there. On the other hand at Lianokladhi<sup>3</sup> and Orchomenos<sup>4</sup> the *Urfirnis* strata overlie other strata of red on white ware, and they are not very thick. Thus we may legitimately assume that *Urfirnis* ware began earlier at Tiryns than at the other two sites, to which it seems to have come from the south. When this took place it is not easy to say, but it might reasonably be conjectured that it occurred about the first Middle Minoan period. The *Urfirnis* sherds found in Thessaly at Tsani<sup>5</sup> occur during the Third Period, and at the very beginning of the Fourth. Therefore if *Urfirnis* ware reached Thessaly about the same time as it came to Lianokladhi, the Third Thessalian Period would fall in the second half of the Middle Minoan age. If also the importation of *Urfirnis* ware into South-Western Thessaly ceased when the makers of the hand-made geometric ware displaced the makers of the *Urfirnis* at Lianokladhi, we could equate the beginning of the Fourth Period in Thessaly with the beginning of Lianokladhi III. Applying this chronology to North Greece we obtain the synchronisms set out below in tabular form (Fig. 151). The lower limit of *Urfirnis* at Lianokladhi is put later than at Orchomenos, since some pieces of Second Period wares were found in the top of Lianokladhi I, and the upper limit also later, because it seems more likely that Minyan ware would be earlier at Orchomenos, its home, than in the Spercheus valley. For the beginning of the red on white ware it is impossible to give any date yet. The *Mattmalerei* sherds, though imports, are as yet of little value, since the evidence from Aegina, Tiryns and Orchomenos is unpublished. Further publications and researches will doubtless correct these provisional synchronisms in many points.

This chronological system has been drawn up mainly on the archaeological evidence, and is based on the actual points of contact between Thessaly and the south shown by the imported wares. It differs considerably from that put forward by Tsundas, which we must now examine in detail. He assigns<sup>6</sup> the neolithic age (First and Second Periods) to the fourth millennium B.C., and the beginning of the bronze age, which he puts at the beginning of the Third Period, to the early third millennium B.C. In this latter he does not include the Mycenaean age (L.M. III?)<sup>7</sup>. The whole of his chronology is based on the date he gives to the early bronze age. This he considers parallel to Troy I, because one of the Thessalian vase shapes ( $\Gamma\beta\lambda$ ) occurs also in Troy I. But as shown above<sup>8</sup> this vase shape is not peculiar to Troy I, but occurs also in Troy II-V. Thus even if the Thessalian and Trojan

<sup>1</sup> p. 194.  
<sup>2</sup> p. 224.  
<sup>3</sup> 2-3, pp. 201 ff., 381 ff.

<sup>4</sup> p. 176.  
<sup>5</sup> 2-3, pp. 381 note 1, 382.

<sup>6</sup> p. 145.  
<sup>7</sup> p. 231.

examples were exactly alike, which they are not, the Thessalian examples might be parallel to Troy V just as much as Troy I, and so this comparison is useless for chronological purposes. Similarly, as shown above<sup>1</sup>, the other parallels in vase shapes between Thessaly and Troy put forward by Tsundas have little or no weight for chronology. He also instances the white on black (Πλατ) ware as a proof of connection between Thessaly and Troy I. This ware is rare in Thessaly, and is only common at Tsangli of all the sites so far explored, and in Troy I not more than three or four such sherds occurred. Again the parallelism is very weak, for the Trojan and Thessalian wares are far from being exactly alike. Further, he believes that this bronze

Thessaly	Neolithic Age		Bronze probably known, but rare		Iron Age
Thessalian Periods	FIRST Red on white ware	SECOND Dhimini ware	THIRD Crusted ware (Urñmis)	FOURTH Monochrome wares (Minyan, L.M. III) (L.M. II rare, and not stratified)	Mamriani Theotoku
Lianokladhi Strata	FIRST Red on white ware Il wares rare		SECOND Urñmis	THIRD Geometric, Διβ, ware (Minyan): site deserted before end	
Orchomenos Strata	FIRST Red on white ware	SECOND Urñmis	THIRD Minyan	FOURTH L.M. III	
Crete, and Mycenaean Mainland	Bronze Age Early Minoan Urñmis below Palace at Tiryns	Middle Minoan	L.M. I, II, III Shaft graves Minyan ware Mati-malerei?	Iron Age Early Geometric ware	

FIG. 151. Table to explain the suggested synchronisms (imported wares in brackets).

age culture was universal throughout continental Greece. He refers to (1) cups found at Argos with two high handles projecting above the rim<sup>2</sup>, (2) the fact that one of the lugs ending in two small horns (a common prehistoric type) occurs at Olympia<sup>3</sup>, (3) Minyan ware<sup>4</sup>, (4) the bronze spear head from Tomb 56 at Sesklo, which is like others from Leukas and the fourth shaft grave at Mycenae, (5) the terra-cotta anchor ornaments which outside Thessaly have been found only at Orchomenos, and the Schiste,

<sup>1</sup> p. 231.

<sup>2</sup> i.e. Minyan ware, cf. pp. 21, 22, Fig. 22;

<sup>3</sup> Δ-2, p. 209, note 1.

<sup>4</sup> He compares the examples from the tombs at Sesklo, see p. 62.

(6) bone whorls like some from Orchomenos, (7) clay cylinders similar to some found at Orchomenos by Schliemann, and by Zahn at Thera with Cycladic wares, (8) Matrimalerei ware ( $\Gamma_1\alpha$ ), which is not so far as we can tell earlier than L.M. I, (9) the likeness between  $\Gamma_1\alpha_3$  and the black, knobbed ware ( $\Delta_5\gamma$ ) from Orchomenos. Of his comparisons, the second has little weight, the fifth refers to objects which so far have been found only in the North Greek area, and the sixth and seventh refer to minor antiquities of no importance. The first, third, fourth and eighth all refer to the Late Minoan period (1600-1200 B.C.). Finally, the black, knobbed ware from Orchomenos ( $\Delta_5\gamma$ ) belongs to the First Period, for it was found with red on white ware ( $\Delta_3\beta$ ). This ware ( $\Delta_5\gamma$ ) Tsundas says is exactly like the  $\Gamma_1\alpha_3$  ware from Thessaly. This view is hard to reconcile with some of his other remarks<sup>1</sup>. He says that between the three varieties of  $\Gamma_1\alpha$  and  $\Delta_1$  there are strong likenesses in the matter of fabric, but also states that he believes  $\Gamma_1\alpha$  to belong to the early bronze age. He admits, however, that it is remarkable that there should be a likeness between the earliest neolithic and bronze age wares, and at that point in a footnote refers to the white on black ware from Troy I, and to the black, knobbed ware from Orchomenos I ( $\Delta_5\gamma$ ). It is not clear whether he means this latter comparison as an instance of the likeness between neolithic and bronze age fabrics or not. But it will be seen that if the  $\Delta_5\gamma$  ware of Orchomenos I were exactly like the Thessalian  $\Gamma_1\alpha_3$  of the Third Period, neither could be used for chronological purposes.

Thus we see that all the instances given by Tsundas for a uniform bronze age culture refer only to the latter part of the Thessalian Fourth Period. There is a long gap between the beginning of L.M. I in 1600 B.C.<sup>2</sup> and the beginning of Tsundas' Thessalian bronze age in 2500 B.C. Minyan ware is only sporadic in Thessaly, and while common in the Orchomenos district, is comparatively rare in the south. Urfirnis ware too, though its area extends from Tiryns to Lianokladhi, is except for a few sherds at Tsani unknown in Thessaly. Consequently all the archaeological evidence is entirely opposed to the theory of a uniform bronze age culture throughout all Greece after the end of the Second (Neolithic) Period in Thessaly.

The cardinal error in Tsundas' chronology seems to be that he postulates that the bronze age began simultaneously in the islands, on the mainland and in Thessaly, for which there is little archaeological evidence. He separated Minyan from Late Minoan wares, and did not realise that the latest examples of  $\Gamma_3$ , as is now shown by the stratification at Zerelia, Tsani and Rakhmani were contemporary with Mycenaean ware (L.M. III). Therefore it seems best to us to begin with the fixed point that we have in the contemporaneity of the later  $\Gamma_3$  with L.M. III ware and work backwards in attempting to arrive at a chronology for the Thessalian periods.

Fimmen's synchronisms are likewise unsatisfactory<sup>3</sup>. He attempts to equate stone with stone, and bronze with bronze, and imagines that everywhere throughout the Aegean area bronze tools replaced stone at the same

<sup>1</sup>  $\Delta_3$ , pp. 241, 242 note 1, 382.

<sup>2</sup> Hauss, *Crit. the Forerunner of Greece*, p. 18.

<sup>3</sup> See the *Synchronistische Tabellen* at the end of his book, *Zeil u. Dauer d. Kretisch-Mykenischer Kultur*.

time. He puts Orchomenos II in the Early Minoan Period, and the light on dark (so-called Kamares<sup>1</sup>) sherd from the Elatea tumulus in M.M. I and II. But in Orchomenos II exactly similar light on dark sherds were found<sup>2</sup>, so that this synchronism stultifies itself. Further, he places the fourth and fifth shaft graves at Mycenae in M.M. II; yet they contained Late Minoan objects. For Thessalian chronology he relies on Tsundas' dating, and consequently we cannot accept his synchronisms.

<sup>1</sup> This and the corresponding sherds from Orchomenos II are certainly not Middle Minoan, and do not even seem to be Cretan.

<sup>2</sup> pp. 194, 204.

## CHAPTER XVI

### THE PREHISTORIC HISTORY<sup>1</sup> OF NORTH-EASTERN GREECE

THE characteristic feature of the first and earliest period is the now familiar red on white style of pottery. It is found in abundance throughout the whole North Greek area, being common in all the early settlements in the plains of Thessaly, Malis, Phocis, and Northern Boeotia. Its southern limit is the pass by Orchomenos, a good natural frontier, when Kopais was yet undrained and the neighbouring hills still covered with woods. Its northern boundary is also a natural one, being the mountain ridge that divides Thessaly from Macedonia. In the west the serrated range of Pindus would seem an ideal boundary, but as yet no trace of early habitation has been found in the western half of the Spercheus valley, nor in the Thessalian plains west of an imaginary line drawn north and south through the modern town of Kardhitsa. This cessation of habitation on the west side of the plains may mark the extent of a primeval forest belt. Fresh discoveries may extend this western boundary, and new settlements may be found close under Pindus itself, but for the present the forest belt theory seems to explain the phenomena, and there is moreover ample evidence that classical Thessaly, and even Thessaly of the early nineteenth century was far more thickly wooded than it is to-day.

The red on white painted pottery is most plentiful in the early strata, where in some cases it exceeds in quantity the plain wares that are found with it: at a very early date also, almost at its first appearance, it reaches its highest development, both in decoration and technique. As time goes on however it decreases in quality and quantity alike; the designs become cruder and the vases coarser and clumsier in shape.

The plain wares, which in the north are almost invariably red, but in the south mostly black, go through a similar degeneration, only increasing in quantity as the painted pottery decreases. The only other painted ware that belongs to this period is a red ware with designs painted on it in white: it is rare and on some sites has not been found at all, and seems to play but a small part in the development of painted vases as a whole. Thus almost from the very beginning, we have to deal with a degeneration, for in the earlier strata the pottery is better in technique and painted wares are more plentiful. This statement, however, though generally true, needs some modification, for in the earliest levels of all at Tsani, Sesklo, Zerelia and above all at Tsangli, plain red wares predominated almost to the entire exclusion of painted. The sudden appearance of red on white painted wares, that is to say, pottery in which

<sup>1</sup> In this historical reconstruction only archaeological evidence has been used, and racial and legendary names have been rigorously excluded.

the whole vase is first painted white and is then decorated with red patterns, is strange. An intermediate style would be expected with white designs on a red ground; this however is lacking, for the white on red style alluded to above is not sufficiently common, nor characteristic of quite so early a period. Nor is it likely that the red on white style is due to a racial change, for the plain red wares found with it cannot be separated from those of an earlier date. It has been suggested<sup>1</sup> that the red on white style is an attempt to reproduce on vases designs originally done in a different material, perhaps light wood, or wicker work. This theory if correct would account for the abrupt transition, and the decorations of the earliest red on white vases from Tsani Maghula, which certainly recall wicker work, seem much in its favour. Nothing is known for certain of the manner in which these early wares were made, but a chemical analysis of the sherds suggests they were baked in open fires and not in kilns; the red paint seems to have been made from a kind of stone often also used for celts.

Local differences are many and various. An examination of the sherds illustrated will show that each site has its own characteristic type of vase, and scheme of decoration. The degeneration, noted already above, though universal varies greatly in degree. At Tsangli in particular it is less marked than elsewhere, but at Zerelia, only five hours distant, exceedingly prominent. Local differences moreover are not confined merely to shapes and schemes of decoration. Slight, but noticeable variations occur in the colour of the paint; at Chaeronea the patterns are almost crimson on a buff ground, at Zerelia the slip is a dead, heavy white, and at Tsani Maghula often almost yellow. The clay also varies from place to place, another proof of local manufacture; the Spercheus valley possesses a "scraped" technique of its own; and Tsani Maghula is remarkable for its two distinct styles, the early solid patterns, and the later linear designs.

A division according to patterns would be as follows: Tsangli, Zerelia and Rakhmani would form one group. But in many ways Rakhmani stands alone, for there red on white pottery is not very common, and with it occur other wares, the history of which may lie further north. Sesklo is akin to all three, though it differs somewhat from all; Tsani Maghula with its two styles differs again, and the Spercheus valley varies also in designs, as in technique.

Lastly, Oreomenos, Chaeronea, and Dhrakhmani would form a southern group in which linear patterns prevail.

It is easy however to overestimate these differences; from Chaeronea to Rakhmani this culture is clearly one. The contemporaneity of the various local styles is obvious, even if it were not proved by sherds imported from one site being found at another. It is worth while for a moment to consider this evidence for internal trade. The Spercheus valley divides the North Greek area in two; at Lianokladhi consequently it is natural to find amid the masses of local pottery a few sherds of the Chaeronea or southern style, and a few also that clearly belong to the Zerelia district. Zerelia, at best a poor site, seems to have imported little. At Tsangli were found sherds from Tsani, Lianokladhi, Zerelia, and Sesklo. Its position in the valley that leads from the Western Thessalian plain down to the Pagasean Gulf is favourable for trade,

<sup>1</sup> This suggestion we owe to Professor Myres.

and the low hills to the south and north are no bar to intercourse with the Krokian plain and the Peneus basin.

The makers of these early wares dwelt almost exclusively in the plains, preferably near a good spring of water, and only in few cases did they venture to settle on the foot hills. Their villages were often close together, frequently less than an hour's walk apart. With the possible exception of Sesklo no signs of fortification have been unearthed, but earthworks or entrenchments may have escaped notice. The evidence for the kind of house or hut in vogue has elsewhere been considered in detail, except in the south rectangular types prevail, but it seems probable there was no uniform shape. The celts belonging to this age are well made, but of a primitive type; none are bored for shafts, and the edge is often bevelled like a modern chisel. Obsidian as well as flint was known, and stores of clay sling bullets have been found in the houses.

The terra-cotta figurines, though quaint in shape, are carefully made: the female types are invariably steatopygous, and the hands in most cases are placed just below the breasts. Their marked steatopyggy may give a hint of the contemporary ideal of feminine beauty, and have been also a racial characteristic of the period, for Darwin records that the chief beauty of a Hottentot tribe was so developed in this respect, that she was unable to rise unless seated on a slope<sup>1</sup>.

The hair was worn long, carefully parted, and dressed in long plaits. The male figurines like the female are nude; one head however may be wearing a head dress of a turban type, and another fragment shows a necklace. The sex of both these last examples is doubtful. In both male and female figures the sexual organs are as a rule clearly marked, and another common characteristic is an abnormally long and distorted neck. The most remarkable figurine of this period is the female statuette from Tsani Maghula, where the knee and ankle joints are indicated by small blobs.

Figures of animals are rare, and, when found, cannot be identified; but two are probably meant to be pigs.

Stone pounders, querns, and rubbers, and bone pins complete the list of household belongings unless we add chairs on the strength of a terra-cotta figure from Tsangli, but even so it was customary to sit cross-legged on the ground, as is shown by another figure found at the same site, and one from Mesiani Maghula. No evidence for burials of any kind has yet come to light<sup>2</sup>, and cemeteries have still to be looked for outside the settlements themselves, unless perchance these peoples followed the custom of the Massagetae and Issedones<sup>3</sup>, and ate their dead, a practice still known in Central Africa.

Thus, as far as can yet be known, the first inhabitants of North-Eastern Greece lived an uneventful life free from foreign invasion and more or less at peace among themselves. Judging from the number of animal bones<sup>4</sup> found among their dwellings, and from the position of the villages in the plains they seem to have been a pastoral and agricultural folk. This period however ends in a great upheaval, many sites are abandoned, new styles of pottery

<sup>1</sup> *Descent of Man* (John Murray, 1901), pp. 281, 282.

<sup>2</sup> The evidence from Chaeronia and Dhramousa is doubtful, pp. 197, 204.

<sup>3</sup> Hdt. i, 216, iv, 26.

<sup>4</sup> A favourite dish seems to have been the freshwater mussel, which is found in the Thessalian rivers.

suddenly make their appearance, and Northern Greece no longer possesses a uniform culture extending from end to end.

The Second Period like the First is neolithic, it contains no sign of any progress in material civilisation, if we except the ring walls of Dhimini which mark an advance in the art of war. The celts show some signs of development, and bevelled edges are rarely found, but a great change is to be noted in the styles of the painted wares. To the south of Othrys in the Spercheus valley, Phocis and Northern Boeotia there is a sudden homogeneous change, but to the north the situation is different; various local wares come into use, and Thessaly may now be divided into several districts.

At Sesklo and also at Dhimini, which was first founded at this time, is a large deposit of the so-called Dhimini ware (B3a). This style has apparently little connection with the red on white ware that preceded it; the shapes of the vases are different, and the typical schemes of decoration which combine spirals and geometric patterns are a novelty in North Greek ceramic art. Though perhaps the most virile of all the Thessalian styles it seems to be restricted to a definite area. At Dhimini and Sesklo it is found in enormous quantities, and is apparently common in the valley that leads past Pherae to Larissa and Rakhmani, but outside this district it is comparatively rare. Sherds of this ware were found at Zerelia, Phthiotic Thebes, Tsani Maghula, and Tsangli, but exceedingly few considering how close some of these sites are to the area mentioned.

The question at once arises is Dhimini ware a rapid indigenous growth, or the result of an inroad? The walls of Dhimini may be used as an argument either way; they can be regarded as a defence against attack from the sea—of the inland sites none seem to be fortified—or as the mark of an invading race, who came and meant to stay. A general resemblance to other painted wares in Thrace points to invasion; the figurines are less steatopygous than those of the earlier age, but this change is common to the whole of Thessaly. The house types on the other hand show no change, though the evidence is admittedly slight. Thus the balance of evidence seems in favour of an invasion, or rather a second wave of peoples coming down from the north. The Dhimini walls even in this case may be a defence against attack by sea; to regard them as the stronghold of invaders from the seaward direction would imply an invasion from the Cyclades, which in culture are far more remote from the Dhimini style than the Thraceward regions. Thus, tempting as it is in one way to conjecture that the Dhimini style came by sea, it is safer for the present to regard it as coming by land, but the origin of this style of vase painting must for the present remain an open question.

To this period belong the so-called *megara* at Dhimini and Sesklo, but as we have already discussed the various theories concerning them, they need only a passing mention here. At the other sites no evidence for architecture has yet been found.

Rakhmani, though in a sense it falls within the Dhimini area, as before possesses certain characteristics of its own. Its position at the entrance of Tempe, close to the northern frontier makes this almost inevitable, and in this period as in the first certain wares are found there which may come from the north. More interesting however is a small pot from this site containing the

bones of a child: it was found in a deposit of the Second Period, but may belong to the Third, and it resembles a similar interment of the Fourth Period. But whether of Second or Third Period date it is the earliest evidence as yet for burial rites in Northern Greece.

At Tsangli is a wealth of painted wares. There the old red on white dies a gradual death, and thanks to the discovery of black or dark brown paint<sup>1</sup> develops into a three-coloured ware. Other wares with black or brown paint on a red or buff ground arise, which show great variety in shape, as well as in decoration, but none combine spiral and geometric patterns in the true Dhimini manner. The most prominent shape is the so-called "fruit-stand" which occurs in nearly all of the Tsangli styles, and the most interesting kind of pottery is perhaps the fine silver grey ware with patterns in black, or a darker grey. This seems to have been much prized in antiquity, for numerous sherds were found with holes drilled near the edges, showing that they came from vases that had been broken and mended by sewing together.

Thus the main features of this site are its great variety in the kinds of painted pottery and the striking contrast that it bears to the sites that fall within the Dhimini area.

Tsani Maghula, that lies in the West Thessalian plain, shows signs of contact with Tsangli, for some of the fine grey ware, just noted above, was found; and also, though naturally to a less extent, it connects with Dhimini. But apart from a few such imported wares Tsani in this period is not rich in painted pottery. It possesses but one local style of its own, a red fabric with black designs (B38), but this never attained to a high standard; the patterns are always meagre and the shapes show little variety. The plain wares, which are in a large majority, have few distinctive features, and from the end of the First Period onwards Tsani Maghula may almost be termed a colourless site.

The mound of Zerelia in the Krokian plain had by this time fallen upon evil days: the old red on white style, never particularly flourishing, slowly disappears, and the masses of plain wares that succeed it are only relieved by an occasional import from Dhimini, or Phthiotic Thebes. It is noticeable too that in the neighbourhood of Zerelia several sites were deserted at the end of the First Period.

To the south of Othrys there is a sudden change of a different character. At Liamokladhi in the Spercheus valley the red on white style was always strong, and seems to have continued later than elsewhere, for in the red on white stratum were found a few sherds of the Second Period painted styles. Then comes a sudden change; the old red on white wares cease abruptly, and are replaced by a thick deposit of Urniris ware. A precisely similar change seems to have happened at Orchomenos: Chaeronea is deserted at the end of the First Period, but one of the Dhrakhmani settlements apparently continues, and contains painted wares of the Tsangli class. The history of Dhrakhmani however is still far from certain. The sudden appearance of Urniris ware, the contrast it bears to the older wares it replaces—for beyond the fact that both are hand-made there seems no resemblance between them—added to the

<sup>1</sup> The black paint is, according to analysis, manganese, which was probably derived from powdered pyrolusite.

desertion of many of the red on white sites, at once suggests war and conquest. We must digress for a moment to see from what quarter this Urfurnis pottery came. No known style of pottery either in the North or in the West of Greece resembles it in any way; in the Argolid however a similar ware has been found, particularly at Tiryns in the early strata beneath the Mycenaean palace. Dr Kurt Müller, the excavator, is inclined to see in this Tirynthian Urfurnis signs of Cycladic influence or origin, and the shapes of the vases bear out his view, but this Tirynthian pottery differs somewhat from that found at Orchomenos and still more from that found at Lianokladhi, which does not seem to be Cycladic in any real sense at all. This point however is not a vital one, if the Orchomenos ware is merely derived from the Tirynthian as well it may be. Perhaps also the excavations now in progress at Tiryns may eventually show that a deposit of Urfurnis, more akin to that from the north, was swept away to prepare a level space for the palace foundations. The theory that we would suggest is, that the Urfurnis ware was originally prevalent in the Argolid, but that it, or rather its makers, advancing northwards, under pressure perhaps coming from still further south, took Orchomenos and came as far north as the Spercheus valley. To the north of Othrys no Urfurnis sherds have been discovered, except a few in the Third Period at Tsani, but the number of abandoned sites in Southern Thessaly, and the poverty of those that continue, may nevertheless be due to an advance from the south.

Of the people who made this Urfurnis ware there is little else to say. They dwelt on the same sites as the people they dispossessed: their houses at Orchomenos are oval and not round like those in the first stratum. They used bone, stone, flint, and obsidian implements. No metal has been found, but bronze was probably in use towards the end of the period. What their figurines were like is unknown, for none have yet been found. This culture began at Lianokladhi, shortly after the appearance of the Second Period wares in Thessaly, and long before it died out in the Spercheus valley, the Second Period in the north had ended. But before we discuss the end of the Urfurnis style we must return first to Thessaly to examine the Third Period.

The Third Period, a division which we have only found possible to make in Thessaly, is one of steady degeneration. The painted wares finally come to an end by the time it closes, and the era of coarse, unpainted pottery begins. The best evidence for this age is to be found at Rakhmani, where some fine examples of crusted ware, almost the only painted pottery still existing, have been found. Tsani Maghula and Zerelia still continue, but can hardly be said to flourish, the evidence from Dhimini and Sesklo is meagre, and it is difficult to know precisely how much of Tsangli is to be assigned to this age. Considering its past, painted wares probably died later there than elsewhere, but almost directly after they have gone Tsangli was only partially inhabited, if not for a time completely deserted, and Rini seems to take its place. Though the pottery may point to a decline, other features show a material advance; bored celts just begin to be found, and metal may now have been in use. This last point is doubtful for no metal objects have yet been found, but the distribution of crusted ware in bronze-using localities makes it difficult to imagine Thessaly entirely neolithic at this time. Small celts are likewise absent and their place may have been taken by

bronze knives. Connections with northern regions as far removed as Servia are seen in the Fig. 112, 113 and crusted wares, and suggest a possible source for the hypothetical bronze of this period, for both at Tsangli and Rakhmani these wares do not seem to be indigenous.

The standard of civilisation in this age can best be realised by an account of the contents of a house at Rakhmani<sup>1</sup>. The building itself was constructed of sun dried brick resting on a low stone foundation. It had perished by fire and the occupants running out in haste had abandoned all their goods and chattels, which were found lying about on the floor beneath the charred debris from the roof and walls. In addition to some fine vases in the crusted style there were several celts, including two with holes bored for hafts, stone pounders, rubbers, querns or millstones; small bored hammers of deer horn, probably, as Tsundas suggests, for threshing corn, for corn itself was found near by; several bone pins and scrapers, a number of terra-cotta whorls, clay rests for holding spits of a type still in use in Balkan lands, a lump of red paint, a quantity of lentils, peas and several pounds of figs which though much carbonised were easily recognisable. But more interesting than all these objects were perhaps the household gods which merit some description for themselves. The heads were of stone or marble and the features—if the conventional patterns may be thus interpreted—were painted, in one example in red and in another in light brown or buff. These heads fitted exactly into the clay bodies, which were found lying beside them. This peculiar type of figurine is not a local feature at Rakhmani, for other similar heads obviously intended also for clay bodies were found at Dhimini and Tsangli. Another object<sup>2</sup>, possibly a double-headed deity, was found in the same house.

Between this period and the next there is no sudden break, the Fourth Period differs from the Third only in degree, but before considering the Fourth and last Period in Thessaly, we must return once more to the south of Othrys, where we left the Ursfiris style at its height.

At Orchomenos the Ursfiris ware is succeeded by Minyan; then Late Minoan wares become plentiful, and Orchomenos can henceforth be classed with the Mycenean cities that lie further south. The transition between Ursfiris and Minyan, and the exact relation of Minyan to the Late Minoan wares, at Orchomenos cannot be understood until all the pottery from that site has been fully published. At Lianokladhi in the Spercheus valley the Ursfiris comes to an abrupt end, like the old red on white style before it, and a rude hand-made ware with black geometric patterns takes its place. Here once more we have to deal with a sudden inroad. Such sudden changes of population are natural in a small restricted space like the valley of the Spercheus; at the first alarm the inhabitants would fly to the mountains on either side, and leave their homes deserted for their conquerors. The tribe that introduced the crude geometric ware seems to have come from over the passes of Tymphrestus, for if they had reached the Spercheus from any other direction, some traces of their coming would almost certainly have been observed. These new Lianokladhi folk still used flint implements; bored celts were found in the odd-shaped house, that seems to belong to the

<sup>1</sup> Cf. Fig. 28, p. 52.

<sup>2</sup> Fig. 28 2, p. 52.

megaron type, which we have observed elsewhere in the Second Period, but as a large number of imported Minyan vases were found together with the local hand-made ware, it is safe to assume that bronze was known.

Meanwhile, to the north of Othrys the Third Period ends and the Fourth begins. The Fourth and last Period of the prehistoric age in Thessaly follows closely on the Third; no painted pottery of local manufacture is found at all, the vases are coarse, and ill-made alike in shape and fabric. Zerelia, Tsani Maghula and Rakhmani still continue, and of the three the last named is now perhaps the best; Tsangli is only partially inhabited, and its place is taken by the neighbouring settlement at Kini. Dhimini and Sesklo also still continue, and soon show signs of the advance of civilisation from the south, but both these sites, except for tombs, are disappointing in their remains. Bronze is of course generally known, but must still have been rare, for knives of flint and obsidian and stone celts, usually by this time bored, are in common use. The universal degeneration noticeable in the pottery applies also to the terracotta figurines, which are now almost shapeless, with two prominent exceptions, the seated ithyphallic figures, one from Zerelia<sup>1</sup> and the other from near Larissa<sup>2</sup>.

House plans show a great variety in types; at Dhimini and Sesklo rectangular shapes seem to prevail, at Rakhmani is a long narrow house with one curved end, and at Kini one of true oval form. But despite such local differences, when considered as a whole Thessaly in this period possesses a culture of a dull and uniform type.

Although there is a great difference between the monochrome wares of Thessaly and the crude geometric pottery of the Spercheus valley, Minyan ware, imported probably from Orchomenos, which at this time had a large coasting trade with Northern Greece, is found in some quantities in both regions. The fact that it is particularly common at Dhimini, Sesklo, and the maghula of Surpi and comparatively rare further inland is a clear sign of the manner in which southern influence was at last reaching the north. On many of the Thessalian sites Mycenean sherds (L.M. III) are also found in the latest strata, but none occurred at Lianokladhi in the Spercheus valley, which therefore seems to have come to an end before most of the settlements further north. There is also, as we have seen in Chapter XII, some evidence for connections during the second Late Minoan period, but the few objects of this date were not found in any stratified site, and so are of little value.

Thus it was only at the end of the prehistoric age that Mycenean civilisation really reached Northern Greece, but before it could supplant the older cultures, and gain a firm hold on Thessaly, it was itself swept away by the northern invasions that mark the dawn of historic Greece.

Before, however, we come to consider the end of the prehistoric age, one or two further points require some attention. In the Fourth Period are a large number of cist tombs of small size and built of slabs. These are found in the Spercheus valley as well as in Thessaly itself, and also in and near Orchomenos. Outside the North Greek area similar tombs are known at Thorikos, Athens, Eleusis, Tiryns and Leukas. In date as well as in distribution these burials seem to correspond to Minyan ware; the body

<sup>1</sup> Fig. 110, p. 163.<sup>2</sup> Fig. 39, p. 57.

interred is always in a contracted position and lying on one side, the objects buried with it are few in number, at Zerelia in one such tomb<sup>1</sup> was a bronze knife, a flint arrow head and a bored stone celt, and in many if not most examples the bones alone are found. In contrast to these cist tombs are the rare Mycenaean tholoi at Dhimini, Sesklo, Marmariani and elsewhere<sup>2</sup>. The Mycenaean burial at Rakhmani was in a damaged condition, and it could not be seen if it was a tholos burial or not. The body, however, was lying at full length, and not in a contracted position. At Rakhmani also, in a deposit of the Fourth Period, and near to a house wall, was a pot containing the bones of a child, similar in every way to an earlier burial at the same site. In all these cases only inhumation seems to have been practised, for no signs of cremation have been observed.

The whole question of the use of bronze<sup>3</sup>, its first introduction and its origin, is in many ways still obscure. That it came into use late, and was never common is clear from the amount of bone pins, flint and obsidian knives, and stone celts, that are found in abundance even in the uppermost strata, but it is still far from certain from what direction it came. In Othrys, as opposed to many parts of Greece, are several copper mines<sup>4</sup> and traces of ancient, though undated, workings. Some bronze axes, said to have been found in this district, are now in the Athens Museum<sup>5</sup>, and the stone moulds from Sesklo are a proof of metal industry. All these objects, however, are probably of a late date, and local working in bronze seems never to have flourished in early times in Northern Greece. For a long period North Greece seems to have possessed only few implements of metal imported either from north or south. The types of the weapons found are not conclusive on this point, but if as seems quite possible from other evidence Thessaly owed its first knowledge of metal to the north, the Ursinii folk to the south of Othrys probably procured it from the opposite direction. Perhaps too it was first known to the south of Othrys, and only reached Thessaly at a later date.

In the north as in the south the end of the prehistoric age was caused by a great catastrophe: the old sites in the plains were deserted, and fresh settlements were established on the foot hills. Besides a great change in material civilisation, there was probably a change in the mode of life. As to what caused this sudden downfall the evidence from archaeology is still slight. It was presumably a series of invasions from the north; the appearance first of the strange geometric wares in the Spercheus valley, and later of raking handles are both alike probably signs of closer intercourse with the north.

It is easy, however, to overestimate the suddenness of the end. The top strata of the older sites have naturally suffered most from denudation, and so the evidence for what is perhaps the most interesting phase of all is unduly meagre. Nevertheless, between the historic and prehistoric ages a few connecting links can be found; some of the tholoi at Marmariani contained iron, and crude geometric pots descended from, or at least related to, the hand-made wares at Lianokladihi. The Theotoku tombs are another link in

<sup>1</sup> Tomb F, p. 169, Fig. 108 A.

<sup>2</sup> See Chapter X.

<sup>3</sup> See p. 24, note 5.

<sup>4</sup> Α. Καρδαλής, *Διηγήσεις Ελλήνων από την Αρχαιότηταν*, pp. 18 ff.

<sup>5</sup> Nat. Mus. Athens, No. 12445, Inv. of Bronzes.

the same chain, and stand midway between the primitive Thessalian geometric and the fully developed Dipylon style.

Having traced the development of North-Eastern Greece from its first beginnings, we may in conclusion sum up the more salient points. We started with an area extending from Orchomenos northwards to the Macedonian hills, possessing a uniform style of painted pottery. Then Northern Greece was divided into two at Othrys, to the south of which was a uniform culture different from the first, but still primitive. This, as we have seen, may be due to a thrust of peoples from the south of Greece. To the north of Othrys a variety of painted wares, some of which show connections with the north, replace the older style. Then throughout Thessaly began a long and steady decline, and no painted pottery at all is found. Meanwhile other changes of a different character take place in the south. A new and barbarous folk appear in the Spercheus valley, and farther south still Orchomenos becomes civilised and finally develops into a Mycenaean city. Lastly, Minyan ware from Orchomenos and Mycenaean wares also are found in certain quantities in Thessaly, but before North Greece could become civilised, all civilisation for a time was swept away.

The existence of a backward and barbarous group of peoples on the northern frontier of what may be called Mycenaean Greece is of some historical importance. We have suggested elsewhere that Thessaly was backward in civilisation because it lay just outside the two metal-using areas of the Eastern Mediterranean district, being too far north or rather just off the lines of Mycenaean trade, and too far south of the line of metal-using peoples that runs east and west through Servia and Troy. Other factors also may have helped to produce the same result. The country, as we have seen, was once more wooded and so more difficult for intercourse than in later days; its inhabitants presumably led a pastoral life, and pastoral peoples seldom develop rapidly of themselves without some external stimulus. But though Thessaly produced nothing of itself, it played an important part as a buffer state, and helped to protect the civilised regions of Southern Greece from the more vigorous tribes of the Northern Balkans. It was not until the Mycenaean peoples themselves had removed this barrier by trade, or partial conquest, that the destructive invasions from the north began which overran the Greek peninsula from end to end.

## CHAPTER XVII

### ETHNOLOGICAL CONCLUSIONS

With only scanty evidence for burial customs, and none for skull types, the ethnology of North-Eastern Greece cannot rest on a firm basis. We have seen, however, that there is a great general resemblance in culture between Thessaly and Thrace and the regions beyond<sup>1</sup>. Therefore it seems highly probable that the main element in the population of North-Eastern Greece in prehistoric times had Thracian connections. From time to time this stock was doubtless strengthened by fresh incursions from the north, and in this probably lies the explanation of the appearance of spiral decoration in the Second Period. Thus we may accept Tsundas' Thracian theory<sup>2</sup> in a general sense without admitting the validity of all his arguments. It seems, for example, fantastic to call in Thracians to explain the occurrence of stray figurines of a northern type at Sparta<sup>3</sup>. Their early date by itself puts them probably outside the range of tradition, and similarly the suggestion that the legend of Tereus, and the Thracian war against the Minya is based on events that took place in the First (Neolithic) Period is incredible. The tales of Thracians<sup>4</sup> in Phocis and Boeotia must belong to a much later period, though probably there was always a certain Thracian element in the population of those districts.

Owing to the legends that connect Pelasgians with Thessaly, Tsundas considers that they also formed a large part of the population, and he makes them mainly responsible for the introduction of spiral decoration. He regards them, however, as a northern race and closely allied to the Thracians in apparently every respect. There is much to be said for this view, but before admitting that North Greek cultures can be due to Pelasgians it is necessary to examine closely Professor Ridgeway's views on prehistoric North Greece.

It must be noted that the first volume of *The Early Age of Greece* was published in 1901, when little or nothing was known of things prehistoric in North-Eastern Greece. Professor Ridgeway's later publications do not discuss the question of Mycenaeans or Pelasgians in North Greece, but as they contain a further exposition of several points of his Pelasgo-Mycenæan theory as a whole, it is necessary to refer to them here. The main points to be noted are as follows. He now writes<sup>5</sup> "there is good literary proof for Minos being an Achaean in origin," but in the *Early Age* Minos was treated

<sup>1</sup> See Chapter XV.

<sup>2</sup> Δ-Σ, pp. 295 ff.

<sup>3</sup> See p. 225.

<sup>4</sup> Cf. C. O. Müller, *Orchomenos*, pp. 206, 213,

320 ff.

<sup>5</sup> *Minos the Destroyer*, p. 22.

as belonging to a great Pelasgian dynasty<sup>1</sup>. The archaeological test for Pelasgians throughout the *Early Age* is the occurrence of Mycenaean pottery, but in *Minos the Destroyer* it is suggested<sup>2</sup> that the destruction of the palace of Cnossus at the end of the Second Late Minoan period was immediately followed by an essentially new culture introduced apparently by the Achaeans of Homer<sup>3</sup>. This view seems to us to conflict with the evidence from the Zafer Papoura cemetery which clearly shows that<sup>4</sup> "the overthrow of the later palace did not bring with it any real break in Late Minoan culture," and consequently does not satisfy any of the archaeological criteria required for Achaeans in the *Early Age*, where they are sharply differentiated from Mycenaean peoples. The conquerors of Cnossus, whether Achaeans or not, in culture seem to have been Mycenaean. In Chapter X and elsewhere it will have been seen that in the face of the archaeological evidence we cannot accept the view that the main foci of Mycenaean civilisation were on the mainland, and that from there it spread to many places including Crete<sup>5</sup>. The restatement of this view in *Minos the Destroyer*<sup>6</sup> also seems to us to under-estimate the Cretan evidence.

This disagreement however on the development of the Mycenaean civilisation as a whole need not necessarily apply to the question of Pelasgians and Mycenaeans in North Greece, and the following suggestions must be taken as based only on the views put forward in the *Early Age*, where prehistoric Thessaly is considered in detail.

In his discussion of Boeotia and Thessaly<sup>7</sup>, which he takes together, Professor Ridgeway attaches great importance to Orchomenos and claims to prove the following two points: (1) that the Minyans of Thessaly and Orchomenos are closely connected, and (2) that both are Pelasgians. Thessaly is regarded as one of the homes of the Pelasgian race, which he considers made the objects called Mycenaean. Now there are certainly archaeological connections between Orchomenos and Thessaly at different times. The earliest settlement at Orchomenos contains the primitive red on white ware that also occurs further north. It does not, however, occur in the Argolid, nor as far as is known anywhere to the south of Orchomenos itself. It shows no connection with any known Aegean ware, and the figurines found with it are non-Aegean in character. So neither Orchomenos I nor contemporary Thessaly can be Pelasgian. Orchomenos II contains Urniris ware, which extends up to Othrys, but further north only a few sherds have been found. It may have originated in the Argolid, but in any case it is not Thessalian. In Orchomenos III we come to a ware, Minyan ware, which in a certain sense connects with Mycenaean wares, in that it is found with them, and is wheel-made, but in style and fabric it is totally different. It has a wide distribution, being found in the Argolid, where there is apparently a local variety of it, in Attica, Boeotia, Phocis and on many sites in Thessaly, where it is especially noticeable in the neighbourhood of Iolcus. It also occurs at Troy and in the islands. Its home, however, seems to be Orchomenos,

<sup>1</sup> p. 640.

<sup>2</sup> pp. 13, 22.  
<sup>3</sup> Evans, *Prehistoric Towns of Crete*, pp. 133 ff.; cf. Mackenzie, *B.S.A.* XIII, p. 426.

<sup>4</sup> *Early Age*, p. 682.

<sup>5</sup> pp. 30, 31.

<sup>6</sup> *Ibid.*, p. 22.

<sup>7</sup> *Early Age*, pp. 167 ff.

for there alone are great quantities found. Thus in many respects it seems to offer a tentative archaeological basis for the Minyan legends.

In the Homeric poems, moreover, Orchomenos occupies a position analogous to Crete; both are famous, but both alike hardly live up to their reputations. This suggests that both had passed their prime, which again seems to coincide with the archaeological evidence, for Minyan ware seems to disappear before the very last phase of the Mycenaean age, the transitional period, when iron is known, which seems to be depicted in the *Iliad*.

But whether Minyan ware was really made by Minyans or not must remain for the present an open question. In any case it cannot prove Thessaly to be Pelasgian or Mycenaean. The occurrence of Minyan ware at Troy shows a special connection with Orchomenos in contrast to the rest of Greece. It is therefore tempting to regard Orchomenos or its port as the conventional starting place for the Troad in early times, and to conjecture that it was for this reason that the Greeks assembled at Aulis, the nearest safe anchorage for a large fleet.

Besides Minyan ware there is also at Orchomenos a considerable deposit of true Mycenaean wares (L.M. III), and, as we have seen, the same ware occurs in Thessaly in the Fourth Period in small quantities, and is found together with the local wares there, which always seem to predominate. These imported Mycenaean sherds should according to Professor Ridgeway's hypothesis be Pelasgian, in which case it follows that neither Thessaly in any period, nor even Orchomenos in its earlier stages were homes of the Pelasgian race. In short it seems impossible to hold at one and the same time that Pelasgians made the objects called Mycenaean, and that Thessaly was one of their homes, if archaeological evidence has any value.

In a later passage<sup>1</sup> Professor Ridgeway discusses the Pheres, Magnetes, and Centaurs, who are proved to be survivors of the older population. To explain the way in which these tribes are represented in legend as despicable, and yet feared as necromancers, many examples are quoted showing that conquerors frequently both malign and fear the peoples they conquer. Thus the Romans regarded the tribes beyond the wall in Britain as vipers and wild beasts, and English settlers in Australia are prone to spread exaggerated tales of the brutality of the aborigines. After giving many apt parallels, Professor Ridgeway finally concludes that the Pheres, Magnetes, and Centaurs were Pelasgians, and to them he consequently attributes the Mycenaean remains from that region, despite the fact that he has just conclusively shown that the traditional accounts of these tribes are like those frequently invented by civilised conquerors about the less civilised tribes they have subdued. The conclusion that really seems to follow from Professor Ridgeway's own evidence is that the Pheres, Magnetes, and Centaurs were barbarous tribes, and so very possibly the makers of the rude Thessalian wares, but not "Myceneans" at all. Tradition and archaeology confirm each other: archaeology shows a late Mycenaean domination of Thessaly, which never ousted the older barbarous culture, and tradition has preserved for us an account of the contempt and fear in which the newcomers held the uncivilised aborigines.

But though they never made Mycenaean objects, the shaggy Pheres,

<sup>1</sup> *Early Ages*, pp. 173 ff.

Magnetes, and Centaurs may be of Pelasgian race. Arcadia, which is almost a test case for Pelasgians, has still to produce any quantity of Mycenean remains, and in Thessaly, where the name Pelasgiotis is found in late times, there is no real Mycenean period. The evidence moreover here is not of a negative type, for the Mycenean remains in Thessaly are found together with local hand-made wares that differ from Mycenean pottery in shapes, decoration and technique.

According to Herodotus the Greeks derived the practice of making ithyphallic herms from the Pelasgians<sup>1</sup>. It is therefore important to notice that such obscene figurines are characteristic of the early Thessalian cultures<sup>2</sup>, which in this respect, as in many others, are sharply differentiated both from the Cycladic and Mycenean civilisations. It seems therefore probable that there may have been, as Tsundas suggests, a considerable Pelasgian element in North-Eastern Greece, but the term Pelasgian is vague. It seems to be frequently used as meaning little more than ancient or out of date and uncivilised, and where it has a definite racial meaning to be confined mainly to a region near Thrace. Thus in both senses the early peoples of Thessaly may be termed Pelasgic<sup>3</sup>.

It is clearly outside the scope of the present work to discuss in full the possible bearing of archaeology in North Greece on the Homeric question. We may, however, here indicate a few of the main points on which Homeric scholars<sup>4</sup> have appealed to the recent finds. In the first place it is clear that only the very end of the prehistoric age in Thessaly can be used to illustrate the Homeric poems. The problem may be stated in the form of two questions:

(a) Is the standard of civilisation in Thessaly at the end of the Fourth Period compatible with that shown in Thessaly in the Homeric poems?

(b) Does the distribution of early sites explain the Catalogue which shows a state of affairs unexampled in historic times?

To both of these questions only a partial answer can be given. The local Thessalian civilisation is by itself clearly of too low a type to fulfil Homeric requirements, but, as we have seen, there was at the end of the Fourth Period a Mycenean occupation of the north, and Mycenean pottery and other remains have been found widely distributed, together with the older and more barbarous cultures. This contrast in contemporary cultures seems to agree with Homeric Thessaly, where we find rude tribes such as the shaggy Pheres by side of Achaean chieftains<sup>5</sup>. There are hints also of recent internal wars<sup>6</sup>, and from Homer's account one would infer that Thessaly, though conquered, was not thoroughly subdued. Barbarous tribes are driven wholesale across Thessaly to Pindus to dwell outside the Thessalian area, and the Achaean barons in Thessaly are not famed for their wealth, nor are their cities, like those in the south, renowned for their massive walls. The contrast to be noticed in Homer between Northern and Southern Greece has a firm

<sup>1</sup> II, 51.

<sup>2</sup> See pp. 56, 123, 163.

<sup>3</sup> See Professor Myres' paper on the Pelasgian theory, *J. H. S.* 1907, pp. 170 ff., which seems to us the most satisfactory paper on this question so far.

<sup>4</sup> T. W. Allen, *Classical Quarterly* 1909, pp. 97 ff.; A. Lang, *World of Homer*, p. 11.

<sup>5</sup> *Iliad*, II, 741-744. *Iliad*, I, 366-368, II, 741-744.

basis in the difference between the archaeological remains from the two districts.

The second question is less easily answered, for future explorations may extend the Thessalian prehistoric area. At present, however, the distribution of the early remains seems to confirm Homer in various ways. The most northern post of the Greek confederacy at Oloosson, and the position of Priam's most western ally on the Axios mark the extreme limits of the early Thessalian and Thracian cultures<sup>1</sup>. The gap between seems common both to Homer and to prehistoric archaeology: at least in the intervening region only one early site has yet been found<sup>2</sup>.

On turning to Thessaly itself as far as the physical features of the country are concerned the Catalogue with its various baronies is a plausible pre-Dorian document<sup>3</sup>. The area it covers is larger than that occupied by the prehistoric sites, which cease in the western plain, but less than that dominated by the later historic sites. Thus it seems to belong to the transitional period, for which there is at present very little evidence. While it is still premature to attempt to identify the particular prehistoric sites with Homeric towns, an explanation can be given for the greater discrepancies between Homeric and classical geography in the north than in the south. In the south the prehistoric and historic sites very largely coincide, but in Thessaly the reverse is the case. The early peoples of Thessaly dwelt almost exclusively in the plains in contrast to the Mycenaean peoples of the south who preferred low hills with steep citadels. Thus after the Dorian and Thessalian invasions the old sites in the south continued in use, but in Thessaly the majority were abandoned in favour of other sites where an acropolis was available. In the few cases in which the old sites continued to be inhabited, either the debris had formed a sufficiently high mound to make an acropolis itself, or else the original settlement, an exception to the general rule, had been placed on a hill as in the case of Phthiotic Thebes.

The early and crude geometric pottery that occurs in abundance in the third and latest stratum at Lianokladhi is of so clearly defined a type in many ways that it should have some racial significance. Its sudden appearance in the Spercheus valley presumably marks an invasion from over the passes of Tymphrestus, but its origin is still unknown. Ultimately, however, it seems to connect with the early iron age geometric vases from Marmariani, Theotoku, and other sites, which foreshadow the Dipylon style<sup>4</sup>. Thus one of the elements of the later Dipylon style, what may perhaps be termed the geometric element as opposed to the Mycenaean (for both are undoubtedly present in fully developed Dipylon pottery<sup>5</sup>), seems to appear first in the Spercheus valley. In this connection it is perhaps significant that there in Homer is located the original Hellas and the original Hellenes<sup>6</sup>.

<sup>1</sup> See Myres, *J. H. S.* 1917, pp. 177 ff.

<sup>2</sup> Not yet explored. It is on the south bank of the Haliacmon near Servia.

<sup>3</sup> The views of Niese on the Thessalian section of the Catalogue (*Homerische Schiffskatalog*, pp. 19-23) imply that his author was a fool. We would deal with the Catalogue on the lines adopted by T. W. Allen, *J. H. S.* 1919, pp. 591 ff.

<sup>4</sup> See pp. 215 ff.

<sup>5</sup> Cf. Wyde, *Arch. Mitt.* 1897, pp. 233 ff.

<sup>6</sup> Hellenes. Having used up the Thracian and Peasian legends for the First and Second Periods, Taundus brings in Hellenes to explain the subsequent era of plain pottery, which according to him is universal in continental Greece, marks the beginning of the bronze age and is contemporary with Troy I. For various reasons (see Chapters XIV, XV) which have already been discussed we cannot accept his

The name Elláda ('Ελλάδα') for the river still lingers on to-day, and despite modern education, which favours the name Spercheus, is still to be heard. Thus the valley, that finally gave its name to the whole of Greece, seems also to be the home of the earliest Hellenic pottery.

The geometric pottery of the early iron age from Thessaly itself, which seems to have some connection with the earlier Lianokladhi style, is remarkable for the resemblance it bears to the early geometric vases of Crete. The fibulae from the Theotoku tombs, in which the bow is already present, but the pin plate only just apparent in its earliest stages, shows that this style is of a very early date, and also indicates the same general connections as the vases themselves<sup>1</sup>. It is therefore by no means impossible that we have here a hint of an archaeological basis for the traditional connection between Thessaly and Crete in the wanderings of the Magnetes, and the occurrence of similar place names such as Boebe, Magnesia, Phaestus, and Phalanna in both regions. At the period, to which this early iron age geometric pottery must be attributed, the Dorians must have been already within Greek territory or at least only just outside. The geographical gap on the mainland in the Homeric catalogue between the forces of Agamemnon and Priam has sometimes been explained on the assumption that this district was peopled by Dorians<sup>2</sup>. The early iron age vases from Pateli<sup>3</sup> which belong to this region are, as we have seen, somewhat analogous to the vases from Marmari and Theotoku. Further in literature<sup>4</sup> the Dorians first appear in Crete and their presence there is usually explained on the theory that they represent an early migration that had come direct by sea. Andron<sup>5</sup> definitely asserts that they came to Crete from Histiacotis, but as it is doubtful if this statement is more than an inference from the Homeric passage, it must be accepted with reserve. There seems however on the present evidence to be a good case for connecting the early geometric wares of Thessaly and Crete, and for attributing both to Dorian influence.

Finally we may summarise here the main conclusions to which all the evidence we have examined seems to point. Starting with the earliest remains and proceeding in chronological order up to the end of the prehistoric age we saw that North Greece throughout possessed a different culture from the south, and that Mycenaean influence never succeeded in permeating Thessaly, which always continued in a backward and barbarous state of civilisation. The points of difference between North and South Greece were so strong that we ventured on the strength of the archaeological evidence alone to suggest a corresponding difference in race, or rather a different admixture of races. This view, though it admittedly conflicts with many recent theories, nevertheless seems to agree with tradition as a whole and in certain cases to be confirmed by it to a marked degree. The late

parallels of his chronology. There is also hardly enough evidence to attribute the decay of painted pottery to the result of war, for the shapes of the plain ware, as Tundla himself admits, and the gradual degeneration that occurs in some cases are just as likely to be signs of isolation as the opposite. Moreover plain wares are a feature confined to Thessaly itself, which is not exactly the region

where Hellenes should make their first appearance. See 2-3, pp. 399 ff.

<sup>1</sup> Leake, *Northern Greece* II, p. 8.

<sup>2</sup> See Figs. 144, 147, cf. 'Eph. Arch.' 1904, pp. 27 ff., Figs. 6, 7.

<sup>3</sup> Myres, *J. H. S.* 1907, pp. 177 ff.

<sup>4</sup> See pp. 216, 259.

<sup>5</sup> *F. H. G.* II, p. 349, 4.

continuation of a low state of culture in Thessaly and the Spercheus valley may, perhaps, as has been suggested above, explain some of the difficulties of the Homeric poems, but it is also certainly a factor that will have to be taken into account in considering early Greek history. Archaeological discoveries in recent years throughout the Aegean area all help to show that Greek art and civilisation is largely a renaissance ultimately depending on Mycenean culture. In view of this it is perhaps no mere coincidence that Thessaly, where Mycenean culture never flourished, should have been one of the last districts of Greece to rise to a prominent position. The analogy does not end here. In prehistoric, as well as in historic times, a backward Thessaly acted as a barrier behind which the more civilised states of the south developed, and the increase of power and civilisation in Thessaly in the fourth century B.C. under Jason of Pherae and similar tyrants, as at the end of the Mycenean age was followed by an invasion of Greece from the North.

## APPENDICES

### I. NOTES ON THE PREHISTORIC FINDS IN BULGARIA, ROUMANIA, ETC.

The following notes on the distribution of early civilisations in the north of the Balkan peninsula are mainly intended to supplement the views put forward in Chapter XIV concerning the connection of Thessaly with that region. They may also perhaps help to draw the attention of English archaeologists to a much neglected, but very important question<sup>1</sup>.

In Moldavia, Transylvania, Bucovina, Bessarabia, and the adjoining districts evidence is rapidly accumulating for the existence of large quantities of painted prehistoric pottery which despite many local varieties, may for our present purpose be regarded as forming one class. At Cucuteni near Jassy in Moldavia Dr Hubert Schmidt has now discovered two different periods<sup>2</sup>, one of which seems to be neolithic, and the other chalcolithic, for in it bronze weapons were found together with celts. The characteristic feature of the first and earlier period is a large series of polychrome vases of the so-called "fruitstand" type, which in shape, and to some extent in decoration recall several wares of the Second Period in Thessaly. There are however considerable differences: in the Cucuteni wares the biscuit is unpolished, the paint is matt and dusty in appearance, and the designs, which usually cover the whole of the vase, are, though similar to the Thessalian, far from being exactly the same. Thus in spite of a strong general resemblance even small sherds from Cucuteni and Thessaly can be easily distinguished.

The later vases from Cucuteni, which belong to a chalcolithic or early bronze age, are closely allied to those found by von Stern at Petreny<sup>3</sup>. There is the same use of spirals, the profiles of the vases which slope rapidly away to a small base are very similar, and the decoration is in both cases usually confined to the upper part of the vase. This style of pottery, which is not sharply separated from that which precedes it, has also some analogies with Thessalian wares of the Second Period, in which spiral decoration of a somewhat similar type is found. In all other respects however there seems to be little resemblance.

An entirely different type of early culture, also showing many local varieties, is found in Serbia<sup>4</sup> at Vinča, Klicevāč, and Žuto Brdo, to name only the most

<sup>1</sup> Our thanks are due to the Directors and Curators of the National Museums in Serbia, Bulgaria, and Roumania for their kind help, and also to Dr. Hubert Schmidt for information about Cucuteni and other points.

<sup>2</sup> These two periods seem to correspond with the two cultures distinguished by Chvojska in Podolia, Stone Age on the Middle Dnestr, *Trans-*

*Russ. Arch. Soc.* 1904, v. 2 (in Russian), cf. Minns, *Greece and Scythians*, pp. 132 ff. For a brief account of the Cucuteni finds see Schmidt, *Zeit. f. Ethnol.* 1911, pp. 582 ff.; Dascalu, *Buletinul Comisiei Monumentelor Istorice*, III, pp. 195 ff.

<sup>3</sup> *Die prähistorische Kultur in Südrumänien*.

<sup>4</sup> Vassits, *Prähistorische Zeitschrift*, II (1910), pp. 23 ff.

important sites. In striking contrast to the Moldavian group incised pottery is plentiful, and painted wares are very rare, if we can exclude a dark-faced ware with designs in graphite, a technique that can hardly rank as painted. The terra-cotta figurines are not steatopygous in contrast to those from Cucuteni<sup>1</sup>. The western and northern relations of this Servian culture do not concern us here, but connections with Hungary are to be observed<sup>2</sup>.

Passing eastwards from Servia into Bulgaria we come to yet another series of early sites which show connections both with the Moldavian group and with the Servian, but also possess a strong local style of their own. In West Bulgaria the sites naturally connect most closely with Servia, just as the sites in Little Wallachia (Oltenia) connect with Hungary<sup>3</sup>. But at Sultan and elsewhere in the Shumla district in East Bulgaria the finds include a large quantity of painted pottery that in shapes and decoration shows connections with Moldavia, a few figurines like those of the second period at Cucuteni, some examples of the Servian incised wares of the Vinča and Kličevac styles, and a number of specimens of the graphite technique. An interesting series of bone figurines<sup>4</sup>, and a large number of terra-cotta animals, the latter from a shrine with walls of painted plaster, found at Sultan itself deserve mention on account of their intrinsic interest, although it is not yet possible to put them into their proper context.

The discoveries of Seure and Degrand in East Thrace in the neighbourhood of Philippopolis are well known<sup>5</sup>. The pottery found is like that from the Shumla district in many ways, but seems to include more incised ware with combinations of spiral and geometric patterns<sup>6</sup>, and also more with an impressed chequer pattern<sup>7</sup>. Painted ware is less common, but the graphite technique occurs.

The series of weapon types in the Sofia Museum includes many of the usual Central European shapes. Particularly noticeable are boxed celts which seem to be imitations of metal axes. A comparison of these with the Trojan examples makes it clear that there was a strong connection between Troy and the middle Danube valley<sup>8</sup>. But since there is no sign at Troy of any painted sherds of the Moldavian or East Bulgarian styles it seems probable that the main trade route left the middle Danube, and followed more or less the line of the Roman road from Nish to the Hellespont. The mixed character of the East Bulgarian finds also seems to imply the existence of an incised style in South Thrace or Macedonia. This point of course can only be verified by excavation, but what little is known of prehistoric Macedonia suggests that painted wares were not common, and there is also some evidence for connecting Macedonia with Troy<sup>9</sup>. Further south in Thessaly there is another great group of painted wares, which in certain points, as we have seen, are distantly connected with the Moldavian group<sup>10</sup>. A few painted sherds from near Küstendil, which recall Thessalian wares of the Second Period, and also those of East Bulgaria, may eventually help to link these two groups together.

Summing up the above points we see that there are two main areas of painted pottery, a Moldavian, and a Thessalian. Between these two is a line of cultures extending from Servia eastwards, and connecting with Troy which are characterised by the use of incised pottery, weapons of Central European types, and probably also by an early knowledge of metal. To which of these groups Macedonia belongs is a question that cannot yet be answered.

Since it is the wares of the Second Period in Thessaly that seem to connect with Moldavia, and the Thessalian connections with Servia all fall into the Third Period<sup>11</sup>,

<sup>1</sup> Cf. Vlasata, *op. cit.*, Pl. 9, with Hoernes, *Ungarische*, p. 211, Figs. 41–46.

<sup>2</sup> See Wosinsky, *Indusjáste Kerámik*.

<sup>3</sup> For a conspectus of prehistoric finds in Romania see Moldi, *Prilejuri asupra Antichității preistorice din România*, *National Consiliul Monumentelor Istorice*, III, pp. 115 ff., 171 ff.

<sup>4</sup> Chilingirian, *Sbornik*, XXV (1910), Pls. I, II. *Bull. Soc. Arch. Bulg.* I (1910), p. 106.

<sup>5</sup> B. C. H. 1906, pp. 359 ff.

<sup>6</sup> B. C. H. 1906, p. 418, Fig. 60.

<sup>7</sup> B. C. H. 1906, p. 412, Fig. 31. A little of this ware has also been found near Sofia.

<sup>8</sup> Cf. p. 233. <sup>9</sup> Cf. p. 231.

<sup>10</sup> Cf. p. 232.

It might be conjectured that the Servia-Troy route falls mainly into the Third and Fourth Thessalian Periods, and that at an earlier period the two groups of painted pottery in Thessaly and Moldavia joined. The intrusion of a new culture from Servia splitting the area of painted wares in two may help to explain the degeneration very noticeable in the two later periods in Thessaly and to be seen also in the second Cucuteni period. An examination of the metal types at Troy suggests that at an early date Troy acquired a knowledge of metallurgy from the East. The early axes are of almost pure copper, and of Cypriote types; the lead figurine from Troy II is Babylonian in origin, and the Selendj mould shows it reached Troy overland<sup>1</sup>. The Central European types of celts at Troy on the other hand seem to belong to a later period. Thus Troy seems to have first obtained metal from the East, and at a later date from the west, which corresponds well with the conjectures put forward above.

The objects of the early iron age found at Patelli<sup>2</sup> on Lake Ostrovo may indicate the intrusion of yet another civilisation into this area. The types of the vases, as we have seen, show connections with the primitive geometric pottery of the Marinariani-Theotoku style, and the spectacle fibulae and other bronzes found with them on the one hand recall those from Hallstatt, and on the other hand those from Phthiotic Thebes. It remains for further excavations in the Balkans to show us the true relations of these different civilisations to one another<sup>3</sup>.

## II. CHEMICAL ANALYSES OF POTTERY, ETC.

Dr Alfred Holt and Mr A. Hutchinson have most kindly undertaken for us the task of analysing the paints and clays of samples of the pottery found in Thessaly. For the note on the cereals discovered at Tsani and Rakhmani we are indebted to Professor Biffen.

### *Analyses of Pottery.*

*A. Paints.* Owing to the thinness of the paint quantitative analysis was impossible, but qualitative analysis gave the following results.

Red paint, from sherds of the various categories of A<sub>3</sub>B, is almost pure oxide of iron;

Black and brown paint, from sherds of B wares, is a mixture of oxides of iron and manganese, probably derived from powdered pyrolusite.

Analysis of the red paint found in House Q at Rakhmani<sup>4</sup> gave this result:—

Silica	61.48
Ferro Oxide and Alumina	26.89
Lime	.80
Magnesia	Trace
Ignition Loss	2.78
	<u>91.95</u>

<sup>1</sup> Evans, *Cretan Pictographs*, pp. 132 ff.

<sup>2</sup> Cf. p. 216.

<sup>3</sup> Wilke in his recent attempt (*Spiral-Müander-Keramik und Gefäß-muster des Hellenen und Thraker*, Würzburg 1910) to draw ethnological conclusions

from the prehistoric pottery of Thessaly, Boeotia, Servia, Roumania, etc., seems to disregard the different dates of the various Thessalian wares.

<sup>4</sup> p. 53.

and a similar partial analysis of the red paint found in a pot in Stratum IV at Tsangli<sup>1</sup> gave this result:—

Silica	76.75
Ferric Oxide and Alumina	11.55
Lime	5.20
Ignition Loss	4.68
	<u>100.00</u>

At Tsangli many of the celts of the First (Neolithic) Period, especially those from House P (e.g. Fig. 68 *a—d*), were of a peculiar chocolate-coloured rock. In the same house were found some fragments of this rock that had been subjected to the action of heat, and were in consequence partly decomposed to a pinkish powder. As in the same house two saddle querns of vesicular lava were found with traces of red paint in the hollows in the upper surface, it was suggested that the red paint might have been obtained by roasting and crushing this kind of rock. The chemical composition of the rock is:—

Silica	48.15
Ferric Oxide	24.31
Alumina	14.01
Lime	4.26
Magnesia	1.85
Soda	5.90
Potash	.83
Ignition Loss	1.70
	<u>100.00</u>

and Mr Hutchinson describes its character thus. "It shows distinct parallel structure with bands of varying texture. Under the microscope numerous rounded oval patches are seen, colourless and transparent, which suggest radiolaria, but are probably inorganic in origin. The dark colour is due to a large proportion of opaque iron oxide. The true nature of the rock is very obscure, but it is most probably a somewhat metamorphosed sediment, perhaps originally a gritty ironstone." It thus seems possible from the composition and character of the rock that red paint could be produced from it by the method suggested.

*B. Clays.* Dr Holt reports as follows. "All the samples examined were composed of more or less coarsely ground clay, which from its chemical behaviour appeared to consist mainly of felspars and oxide of iron. As the only action of boiling hydrochloric acid was to cause the evolution of some carbon dioxide, and the solution of a little of the iron, it may be concluded that the alkalies and lime present are chemically united with the alumina and silica. The presence of carbonates (as shown by the evolution of carbon dioxide when the material is treated with an acid) does not necessarily imply that they were an original constituent of the clay, for it must be remembered that the sherds have been buried for centuries and subjected to the weathering action of water."

"Except in one specimen (a black sherd of F3 from Zerelia) the iron appeared to be almost entirely in the ferric condition, but in this it is largely reduced. In this exceptional case the material was almost black in colour when freshly powdered, but on roasting in the air it gradually assumed the normal red colour of baked clay. From this it seems evident that the pot cannot have been baked in a kiln, as otherwise there would have been little reduction of the iron. Certain other sherds also show signs of imperfect baking, as the iron, though completely oxidised on the surface, is partially reduced towards the centre. Although the clay in some cases is coloured black, and in

<sup>1</sup> p. 29, note 2.

others brown or red it does not follow that it varies in composition, or that it may not all have come from the same locality. The change in colour might arise during the manufacture of the pot<sup>1</sup>.

"Small quantities of manganese were almost always present, and a few specimens contained traces of uranium. All the sherds contained considerable quantities of moisture. Before analysis they were therefore finely powdered, and dried at 100° cent. till of constant weight. The following table gives their composition:—

Ware, and Provenance	Silica	Oxides of Iron, and Alumina	Lime	Alkalies
A <sub>1</sub> , fine, Zerelia.	38.9	26.7	35.3	Trace
A <sub>1</sub> , coarse, Zerelia.	41.8	16.0	33.0	9.2
A <sub>3</sub> <sub>8</sub> , 1st Cat. Zerelia.	66.0	26.0	6.0	2.0
Ditto, Ditto.	59.4	23.6	9.4	7.6
A <sub>3</sub> <sub>8</sub> , 2nd Cat. Tsant.	66.6	20.4	2.7	4.3
A <sub>3</sub> <sub>8</sub> , 1st Cat. Ghuzghunari.	50.3	36.0	13.3	0.4
A <sub>3</sub> <sub>8</sub> , 3rd Cat. Dhrakhmani.	49.7	16.8	28.1	8.4
B <sub>3</sub> <sub>a</sub> , 1st Cat. Phthisic Thebes.	66.2	22.3	2.0	9.5
B <sub>3</sub> <sub>a</sub> , 2nd Cat. Dhimini.	52.2	30.4	11.9	4.9
B <sub>3</sub> <sub>b</sub> , Dhrakhmani.	57.5	28.6	13.0	0.9
B <sub>3</sub> <sub>c</sub> , Dhrakhmani.	36.2	20.5	30.9	12.4
F <sub>3</sub> , Black. Zerella.	59.5	27.3	9.1	4.1
Urfiris, Lianokladhi.	60.7	26.1	3.6	9.6

"In nearly every case the biscuit was covered with a slip of varying thickness either white, black, or buff in colour, and on these the designs are painted. The black slip owed its colour to reduced iron. Analyses of the different slips gave the following results:—

Ware, and Provenance	Silica	Oxides of Iron, and Alumina	Lime	Alkalies
White slip, A <sub>3</sub> <sub>8</sub> , Zerelia.	25.8	14.1	60.1	Trace
Buff slip, B <sub>3</sub> <sub>c</sub> , Dhrakhmani.	33.2	16.1	45.3	5.4
Black slip, F <sub>3</sub> , Zerelia.	58.9	25.8	3.6	9.7

"From this we see that the whiter the slip the more lime is present." From this report it will be seen that Dr Holt believes that all the B wares are slipped, a point which only chemical analysis could make clear. He also agrees with the view expressed above<sup>2</sup> that A<sub>1</sub> ware owes its red surface to the application of a thin slip, probably mainly composed of oxide of iron and silica.

<sup>1</sup> Probably the bulk of these early wares were baked in open fires and not in kilns.

<sup>2</sup> Cf. above, pp. 16 ff.

<sup>3</sup> p. 13.

*Identification of the Cereals, etc.*

The following is an abstract of Professor Biffen's report:—

The barley (from Tsani IV<sup>1</sup>) is in all probability the "four-rowed" form, *Hordeum vulgare*, syn. *H. tetrastichum*. The grains show the two shapes characteristic of this variety.

The wheat (from House Q at Rakhmani<sup>2</sup>) is either *Triticum durum* or *T. vulgare*. There is only one reasonably complete grain, and its shape on the whole is more that of *T. vulgare*.

The leguminous seeds (from House Q at Rakhmani<sup>3</sup>) are probably lentils and peas, but nothing can be said about the varieties.

There seems to be little doubt that all were cultivated. Certainly none of the cereals are known in the wild condition.

As to the figs from House Q at Rakhmani<sup>4</sup> Professor Seward, to whom samples were submitted, is unable to say anything definite beyond verifying the fact that they are figs.

<sup>1</sup> p. 149.

<sup>2</sup> pp. 53, 246.

## TABLE OF ILLUSTRATIONS REPRESENTING POTTERY

(The figures in brackets refer to the pages on which the illustrations can be found.)

A3. Figs. 4 (26); 40 (87); 41 (88); 42 *b-d* (89); 79 *a* (151); 82 (136); 96 (152); 121 (177).  
 A2. Fig. 5 (27).  
 A3a. Figs. 42 *a* (89); 44 *a* (92); 83 *a-d* (137).  
 A3b. Figs. 31 (59); 47 *c* (89); 44 *b-d* (92); 45 (95); 46 (94); 47 (95); 57 *a* (107); 83 *c-d* (137);  
     84 (138); 85 (139); 86 *a, b* (140); 97 (154); 108 *a-d, f-w* (155); 117 *g-m* (173);  
     118 (174); 120 (176); 140 *c-e* (198); 142 *a* (203).  
 A3c. Fig. 98 *c* (155).  
 A3d. Figs. 117 *a-f* (173); 119 (175); 123 (177).  
 A3e. Figs. 48 (96); 49 (97).  
 A3f. Fig. 20 *a-f* (44); Plate III.  
 A5a. Plate II 7.  
 A5b. Fig. 142 *c* (203).  
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## MUSEOGRAPHICAL INDEX

The prehistoric finds from Thessaly and North Greece discussed in the present work are in the following Museums:

Almros Museum, Finds from Phliotic Thebes, Tsangli, Zerelia, and Mycenean objects from Gounos, Gioum, and the neighbourhood of Almros.

Athens, National Museum, Finds from Argissa, Daulis, Dhimini, Lianokladhi, Marmariasti, Orchomenos, Rini, Sesklo, Tsangli, and the terra-cotta statuette from near Larissa.

Cambridge, Fitzwilliam Museum, Avaritsa, statuette from; Dhomokos, vase from.

Chæronea Museum, Finds from Ayia Marina, Chæronea, Dhakhmani, Manesi, Orchomenos, Schiste.

Delphi Museum, Finds from Delphi.

Oxford, Ashmolean Museum, Nezeros, silver statuette from.

Volos Museum, Finds from Dhimini, Dhomokos, Khassan Tatar, Pagasea, Phliotic Thebes, Rakhamani, Theotoku, Tsangli, Tsani Maghula. Volos Castro, Zerelia. In addition in this Museum, for the convenience of students, we have labelled and arranged a set of typical sherds of nearly all the classes of pottery mentioned in Chapter II.

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PLATE I.



Jug of black-on-red ware (R3a) from Rakhmani II (scale 3:5); the inset shows the pattern on the handle (scale 1:1).





Sherds from Tsangli (1-3 B3/3; 4, 5 B3/7) and Rakhmani (6 B3/7), 7 A5/3. (scale 1-6 1:4, 7 3:4)



Tsangli: shards of B3<sup>c</sup> ware (scale 1:1).

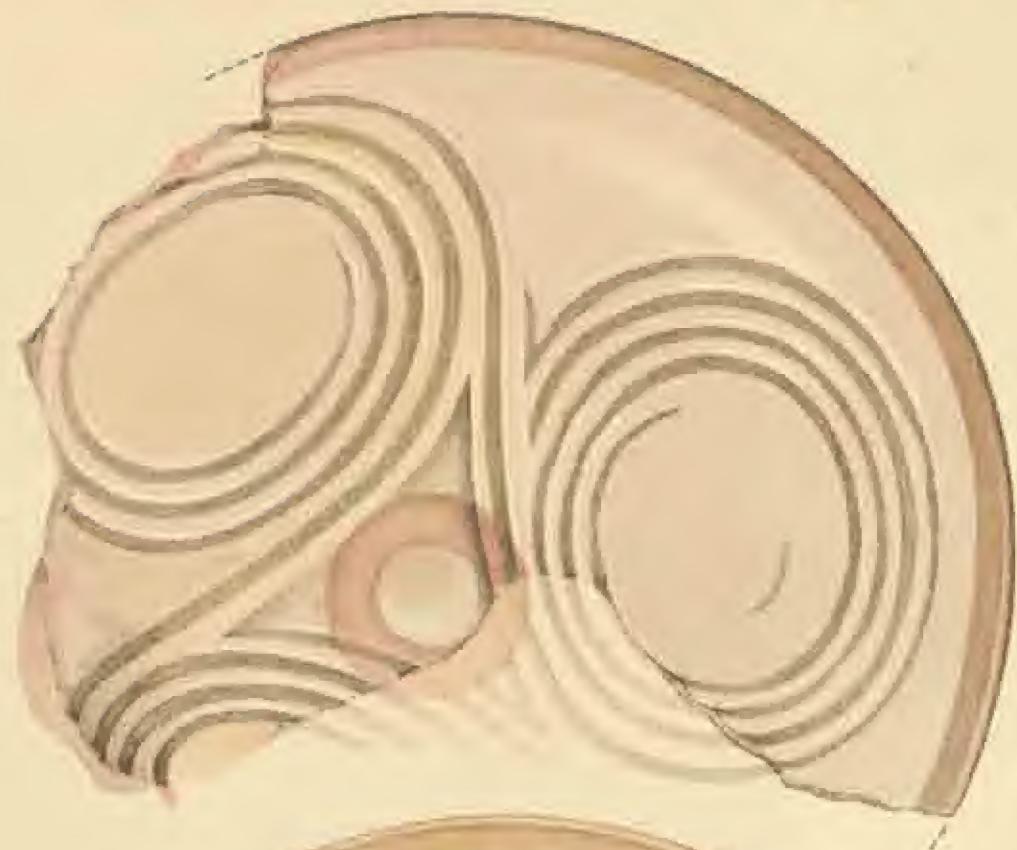




Shards from Rakhamani III (1-4, Fig.) and Tsani Maghula (5, 6 Fig.), (scale 1:1).



2.



1.



Vases from House Q, Rakhmari III (17), (scale 4 : 5)





PLATE VI.



Vase from House Q, Rakham III (T17), outside of vase shown in Plate V.4 (scale 2 : 5)



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